



ICI MAGAZINE

August/September 1963





Peter Barrett



Ernest Brookman



Joan Eadington



Alex Merrie

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Contributors

Peter Barrett is Vice-President and Technical Director of Fiber Industries Inc. Originally a nuclear physicist, he joined ICI in 1953 and has done research on 'Terylene,' 'Ardil' and 'Ulstron.' He was appointed an Assistant Research Manager of Fibres Division in 1957 and left the Division in 1959 to join FII.

Ernest Brookman currently wears two ICI hats—he is Head of Research and Development Department at Millbank and also Development Director of Paints Division. Dr. Brookman joined Plastics Division at Billingham in 1939 and worked for various periods in the Research, Technical Service and Development, Production and Technical Departments of the Division. In May 1958 he transferred to Paints Division as Development Director, a post he still holds, and since June last year he has been on secondment to Head Office. When time and inclination permit, he relaxes by decorating and carpentry.

Joan Eadington is married to a draughtsman/engineer in Heavy Organic Chemicals Division. In what spare time she has left over from looking after her husband and three sons aged 5, 7 and 10 and acting as "builder's mate" she is attempting to write a novel: "I am up to chapter 14 and have just put the hero into a set of circumstances from which it may be difficult to extricate him." Mrs. Eadington and her husband are also enthusiastic potters.

Alex Merrie is a Scot from Perthshire who took an engineering degree at Edinburgh University before coming south. He joined the Company in 1928 at Billingham and is now in Central Personnel Department, being concerned principally with trade union negotiations.

John Page-Phillips joined ICI in 1955 and has divided his time between method study and publicity for General Chemicals Division, and commercial research in Southern Region. An interest in church brasses led to coal plates when he moved to London.

Philip Reilly is a member of the Communication Section of Central Personnel Department, which is responsible for the production of the *Magazine*.

Front cover

Drummers competing at Braemar Highland Games (photograph by Joseph Grant)

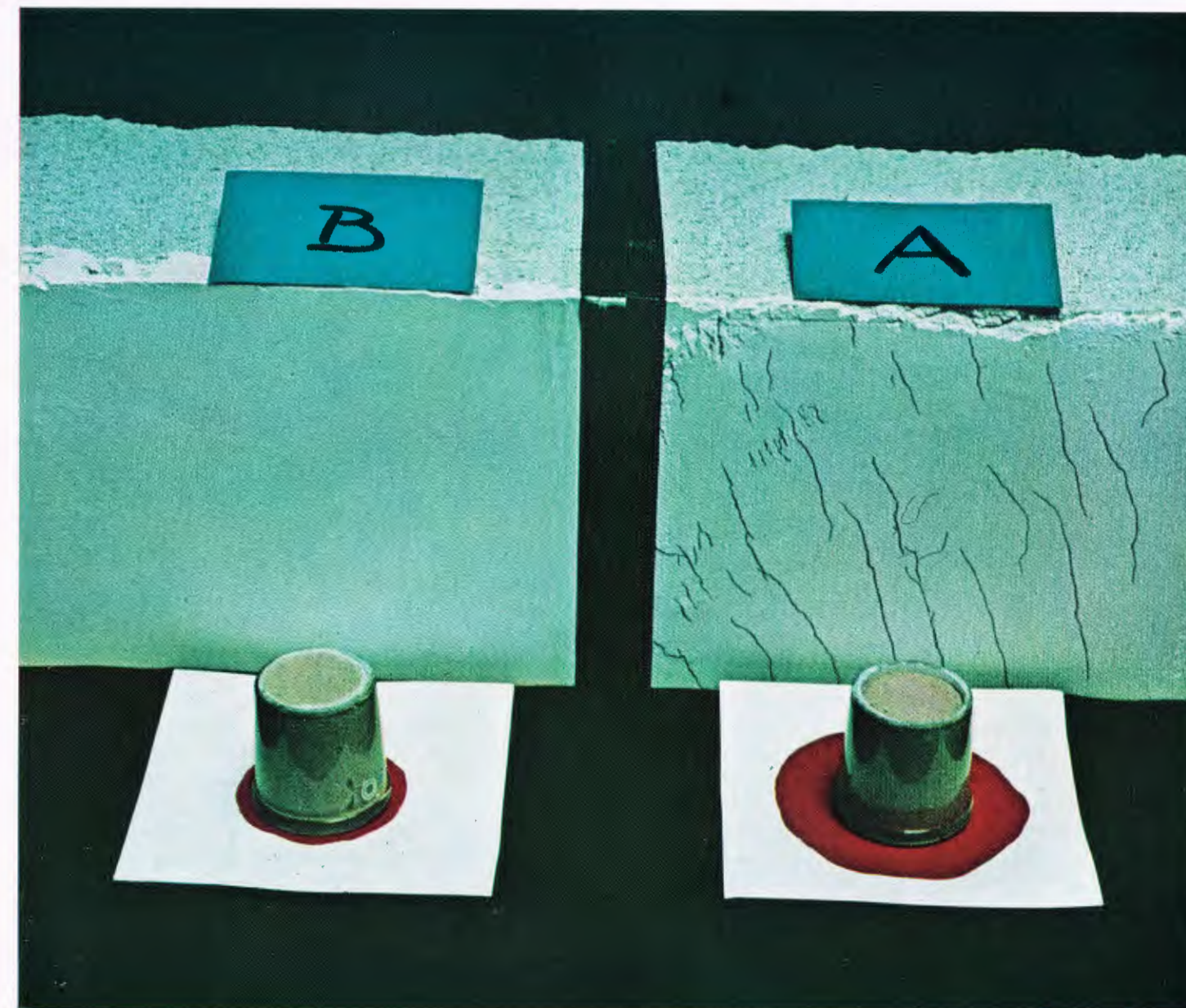
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Research and Development—Why?

By Ernest Brookman

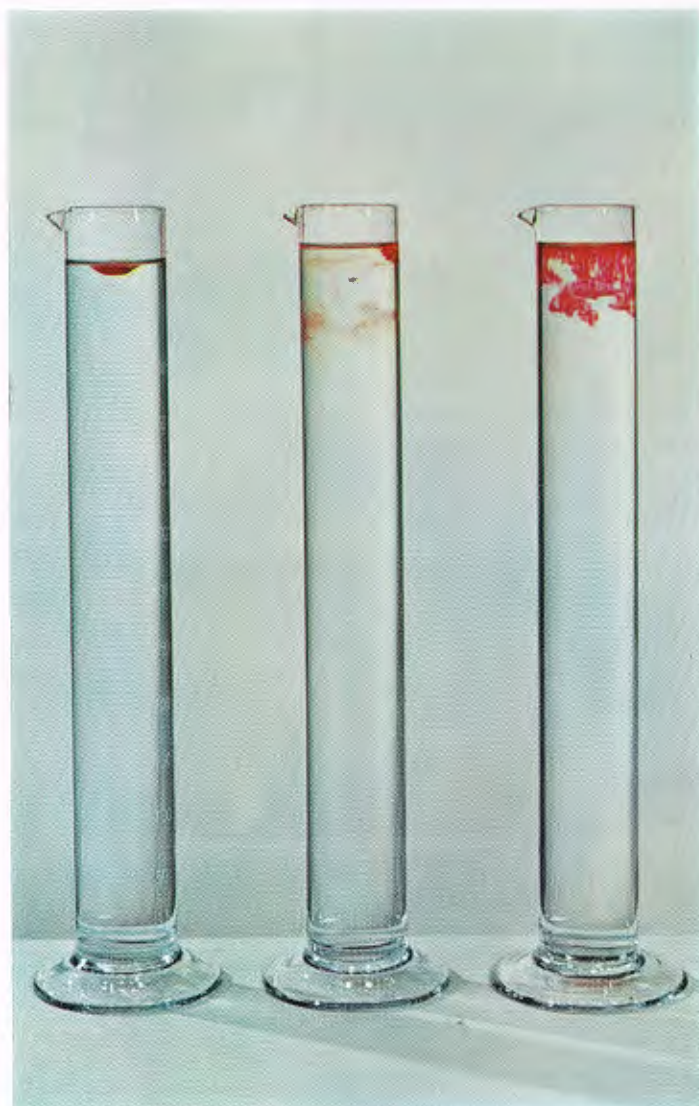
Today nearly all British industry is in much the same situation as Alice, who when she went through the looking glass, found herself in a world where she had to keep running hard just to stay in the same place.

So many other nations have become industrialised that failure to maintain strong competition would soon result in complete loss of business. This demands that we, as a nation, work more efficiently and sell more efficiently—and also that we use our



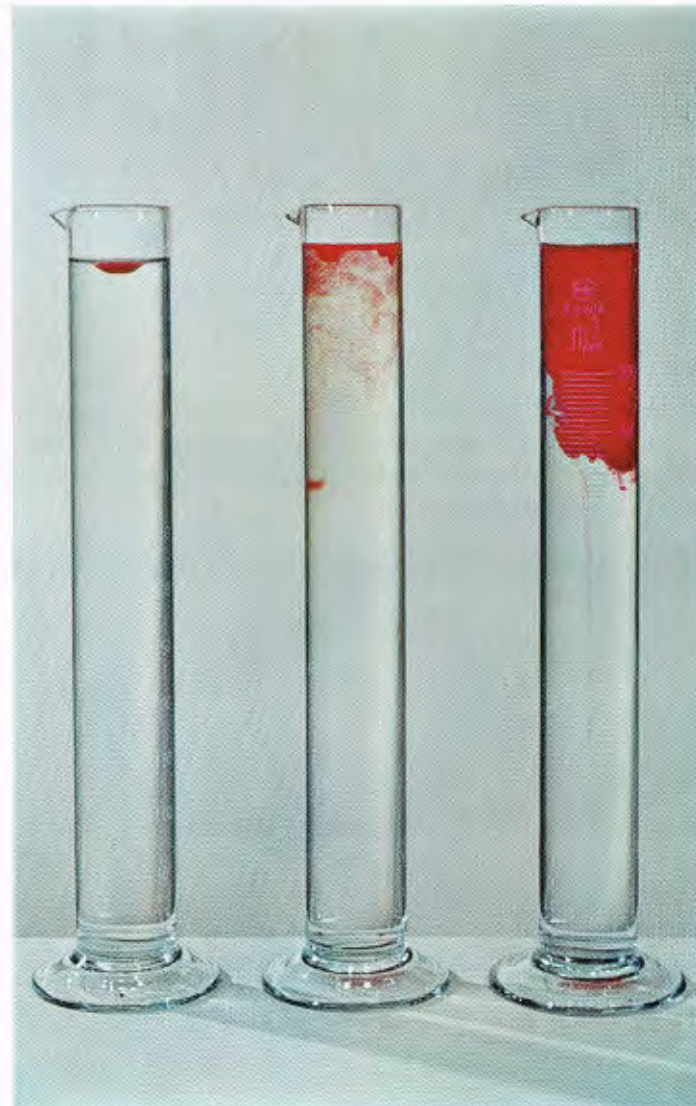
One of the many lesser known results of recent research and development in ICI is the invention of Nobel plasters, which combine strong adhesion with powerful water retention. This illustration shows how an ordinary plaster (A) cracks through loss of water to the material

underneath it, while Nobel plaster (B) does not. In the foreground paper impregnated with water-sensitive dye, beneath open-ended tubes containing wet plaster, shows strikingly how much greater is the water retentive power of Nobel plaster.



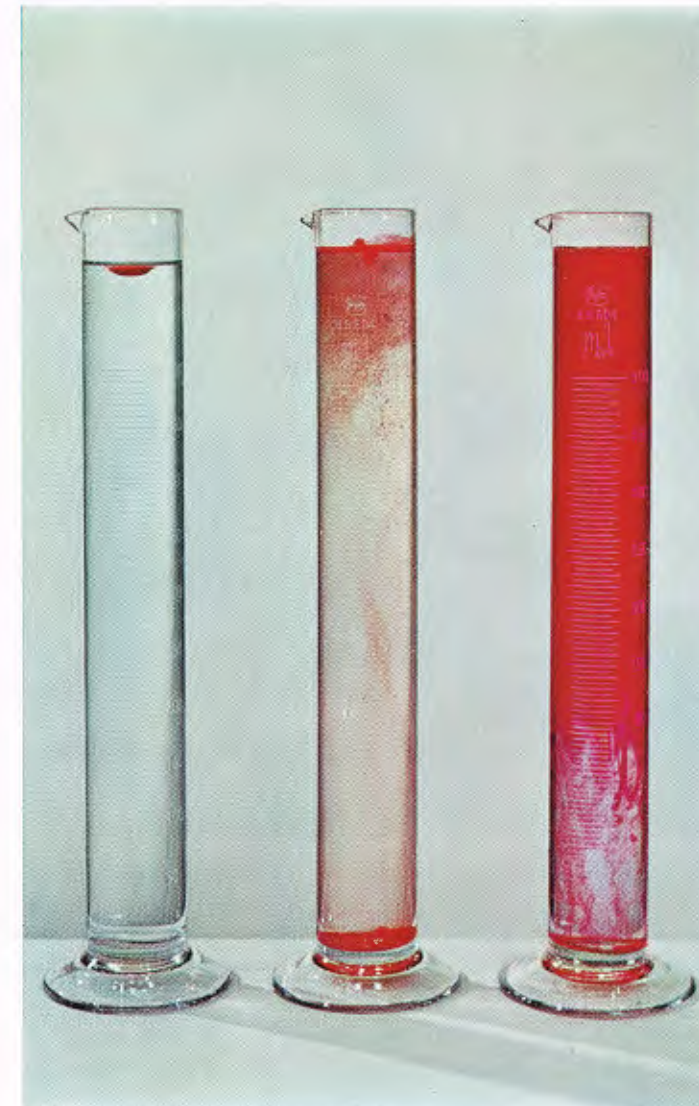
Powder just added

Readily dispersable pigments. One of the latest results of ICI research and development work is the production of readily dispersable pigments, a discovery of immense potential value to the dyeing and colouring industries. These pictures illustrate the improvement achieved

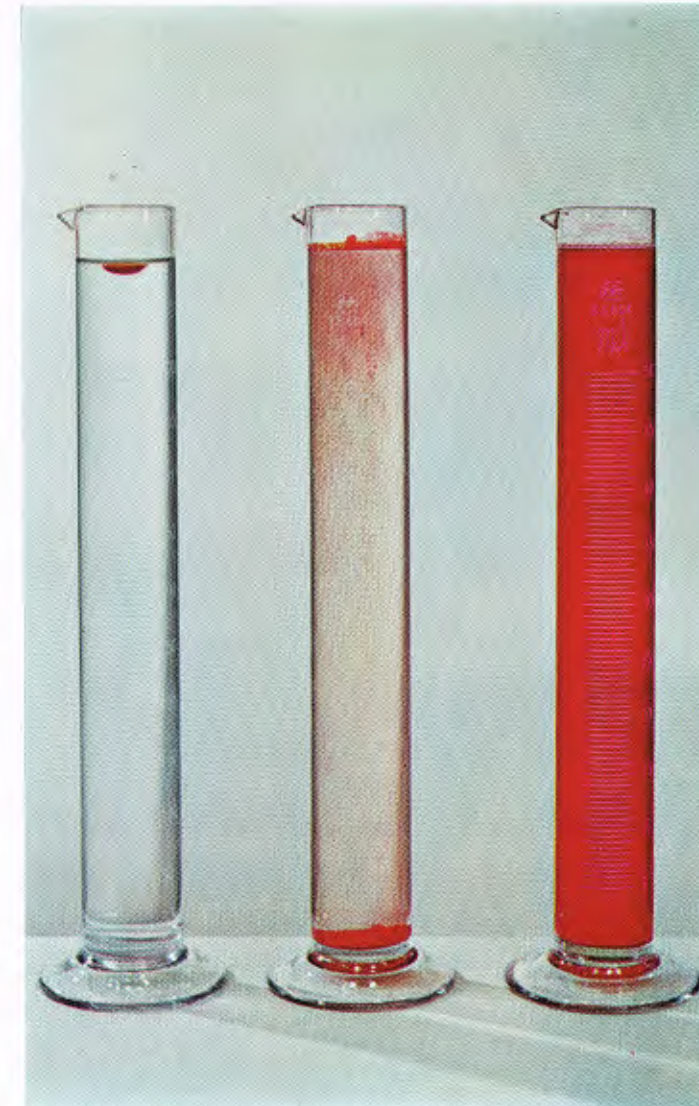


After 20 seconds

by continuous research and development effort. In each of these pictures the first flask contains an old pigment, the second flask one which has been made "wetttable" as a result of some research, and the third flask one of the latest dispersable pigments.



After 1 minute



After several minutes

scientific and technical brains to prevent our trade being taken from us by the continuing progress of other countries.

This is particularly true in the chemical industry, which is based entirely on the results of past scientific research. For this country, as with any other, a great deal of research and development is essential even to keep abreast of world competition. As an example, it has been estimated that, just to keep our trade going, we need to introduce a dozen or two new dyestuffs every year. ICI in fact introduces some 30-40 new dyestuffs each year.

If we are to do more than just stand still—if Britain in general, and ICI in particular, is to be better off—research and development become even more important. We can now be more precise about this, thanks to the work of the National Economic Development Council. As was explained in the last issue of the *Magazine*, Neddy has called for an overall expansion of industrial output at the rate of 4% per year; this means a much

higher demand on the British chemical industry—an expansion rate of 7½% per year. The only possible hope of achieving this is for the industry to invent new products and new ways of making and using old products—which means research and development.

ICI over the past years has achieved a rate of growth of 7% per year; it is therefore no matter of surprise and alarm that our expenditure on research and development has been increasing, as shown graphically on page 114—without this expanding scientific effort we could not have achieved such a high rate of growth. We believe that, against the Neddy target of 7½% annual increase for the whole of the British chemical industry, ICI will need to achieve a growth rate of 8½% per year or better. So we obviously cannot relax our efforts on research and development.

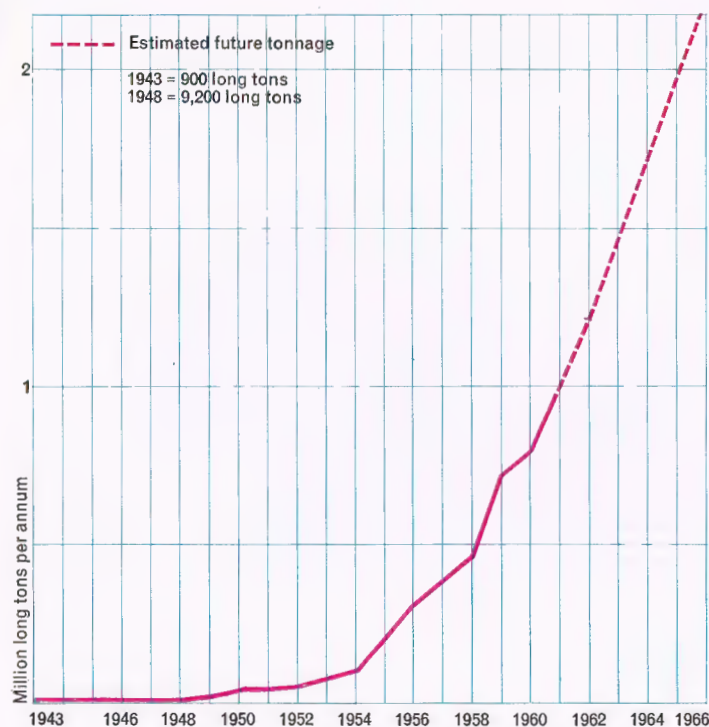
Our expenditure will certainly have to go on increasing to some extent, but there is a limit to what can be done that way. Our own prosperity depends on the prosperity of Britain as a whole as well as on our own technical competence; we cannot,

therefore, demand too disproportionate a share of the country's scientific brains. The most important thing is to see that we are making it possible for the research and development team we have already built up to become increasingly effective.

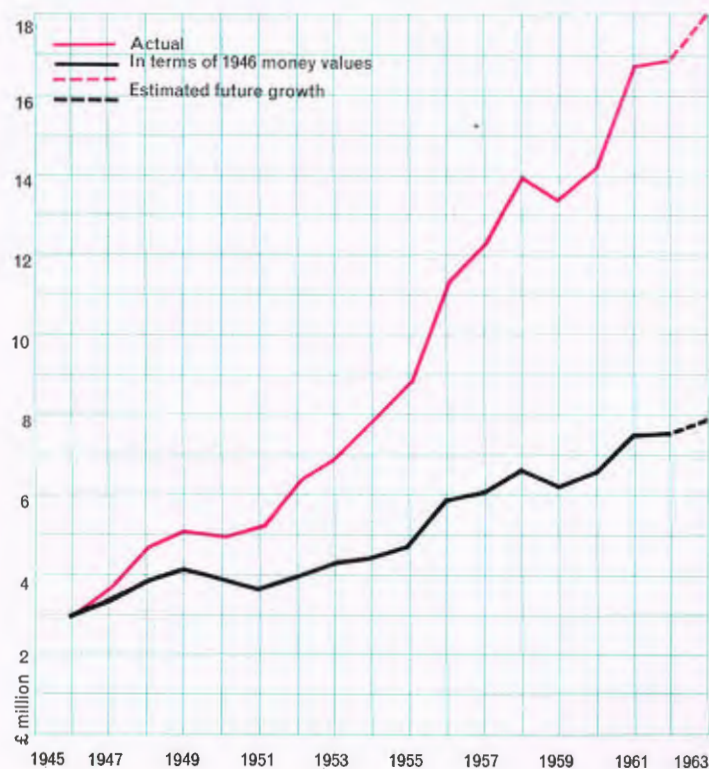
It is a good team—there is no doubt about that! The list of ICI's inventions has been recited often enough—things we have actually discovered ourselves, such as polythene, 'Perspex,' the 'Procion' dyes, the revolutionary bipyridyl weedkillers, and a host of drugs, as well as products like 'Terylene,' where the initial test-tube discovery made outside ICI, has, over comparatively few years, been developed by our technical skills to a large and expanding fibre and film business. More recently we have begun to draw the public's attention to some of the host of other achievements of ICI's research and development which usually miss the headlines because they are not so obvious or glamorous as a new drug or a new plastic. The recent advertisements in the national press tell some of these stories—the

washable wallpapers, the new fire-fighting liquid, the ultra-fast detonator that aids high-speed photography, the Nobel plasters that speed up building, the urethane foams for preventing ships' rudders filling with water, extremely thin 'Perspex' for replacing damaged lenses in human eyes, and dozens of others.

Another indication that we have a good team is the fact that we have been doing very well in earning royalties from other firms who want to make use of our inventions or technical know-how. Inevitably there is constant interaction between firms in this way—no company, however large, can invent everything, and ICI, recognising this, both sells and buys appropriate technical information. This will certainly continue; indeed, this itself can be an important part of research and development—quickly to recognise if other people's discoveries are worth buying and to adapt them to our own conditions. It is no small compliment to our research and development team that over the past year, for example, we earned several million pounds in



Growth of world production of low density polythene. ICI's invention of polythene has contributed a new product to world civilisation generally. This is a typical growth curve for the growth in output of a major new product.



Growth of ICI net revenue expenditure on research and development since the second world war. To some extent the rise in ICI's research and development expenditure since the war has been due to general inflation, especially in wages and salaries. The lower graph is corrected to allow for this and shows that there has been a real, steady increase in effort.

royalties on our technical know-how—more than five times the amount paid out in royalties to other firms or inventors.

So we have a good team. What are we doing to help it meet the even greater challenge that faces it in the future? Our managers and directors, from the Section Heads in the laboratories to the ICI Research and Development Director in London, are giving a great deal of thought to this—as are the managers in other activities that interact with research and development, such as production, sales, personnel and so on.

One obvious requirement for effective work is that we have the tools needed for the job—properly designed laboratories, modern scientific instruments, and ready means of access to technical information.

Even more important than these material tools for research and development, however, is the human being—the human element can make or mar everything else. One of the most important tasks facing industrial management in the coming years is to provide the right kind of organisation and environment for getting the best possible results from research and development. This means finding the organisation which will give the best balance between various opposing factors. Thus, in the matter of technical information, scientists should not be deprived of information relevant to their work; neither should they be overwhelmed with reading matter so that they have no time for more constructive work. Again, there is a need to train scientists and technologists to be fully aware of the many aspects of industry in order to see opportunities for valuable results and to communicate the industrial importance of discoveries to management in production and sales—yet this requirement must always be balanced against the need to be up to date in the highly specialised scientific knowledge necessary for effective research and development. A further example of this “two-way stretch,” and one that has been given a great deal of thought and careful planning in ICI recently, is the need for an organisational balance between, on the one hand, contact between research and development and the problems of manufacture, and, on the other hand, sufficient scientific detachment to encourage really radical innovations. The decision to establish an ICI Petrochemical and Polymer Laboratory separate from the manufacturing Divisions was taken in 1961 in order to provide the Company with a concentrated research and development effort looking to the long-term future without being diverted by the pressing technical demands of today's business; yet this laboratory will need some relatively short-term work to develop a sense of achievement and the Divisions will not, of course, cease to do a great deal of long-term exploratory research in their own fields. This matter will be the subject of a separate article by the Director of the Petrochemical and Polymer Laboratory in a later issue of the *Magazine*.

Many other examples of the same general principle—the need to achieve a balance between extremes—could be quoted. ICI can, in fact, in its research and development, take full advantage of the total effort (with all the opportunities it gives for interplay of skill and cross-fertilization of ideas) and yet benefit from the sense of personal involvement and urgency which comes from working in the smaller businesses of which Divisions are composed.

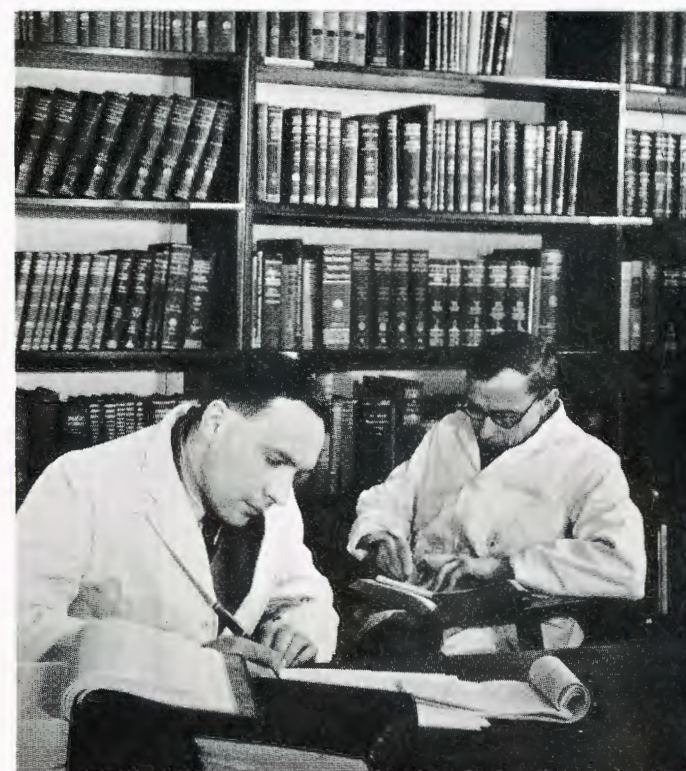
All this adds up to a great challenge and a great opportunity for the future of all of us—and we will all, surely, accept such a challenge and take such an opportunity.



Tools for the job. To be effective, research and development workers need good laboratories and equipment. The new Petrochemical and Polymer Laboratory at Runcorn Heath (left) is the latest addition to the list of ICI laboratories and takes its place alongside an existing



technical and scientific complex. The illustration (right) shows the mass spectrometer room in the Research Department of Dyestuffs Division, with one of the most comprehensive ranges in the world of these important instruments for research and analysis.



More tools for the job. Laboratories and information services are essential to scientific work, and modern thinking even suggests they may use electronic computers for sorting information. Meanwhile, electronic computers are already a major tool of scientific and engineering work itself, and the illustration (right) shows the English



Electric Leo KDF9 computer of the type shortly to be installed in the Computer Centre at Wilton. In a single second this machine can perform a million additions or subtractions or 71,000 multiplications, and sort 6000 items from random order into any required sequence.



The Shelby plant from the air (photograph by Dr. H. E. Jones of Fibres Division)

Profits from America

by Peter Barrett

One of ICI's most exciting investments abroad at the moment is a 50% ownership of a company called Fiber Industries Inc., attractively located in Shelby, North Carolina, near the foothills of the famous Blue Ridge Mountains of Virginia. On the most modern machinery, designed chiefly by ICI, Fiber Industries produces 'Fortrel' polyester fibre, which is marketed by the Celanese Corporation of America, who own the other half of FII. Ever since the plant started up on 1st April 1960, the growth of 'Fortrel' sales has been phenomenal, and four successive plant expansions have been insufficient to keep up with demand.

It all really started when Rex Whinfield discovered the fibre-forming properties of polyethylene terephthalate in 1941. At

that time it would have been difficult to believe that world sales of polyester would exceed a value of £200,000,000 in 1961 and provide jobs for tens of thousands of people.

The basic patents of Whinfield and Dickson were owned originally by the Calico Printers' Association, who in 1947 sold the USA rights to Du Pont and the world rights (except for the USA) to ICI. Quite separately, ICI and Du Pont worked out their own manufacturing processes. ICI called their product 'Terylene,' and Du Pont developed a substantial market in the USA under the trade name of 'Dacron.' With the USA patents due to expire in 1961, Celanese and ICI came together in 1958 and formed a joint company, Fiber Industries Inc., to



RIGHT: An attractive dress of 'Fortrel' polyester fibre



Production personnel at the Shelby plant of Fiber Industries Inc. are (left to right) N. Kamp (Staff), A. V. N. Priest (Project Engineer), J. B. Phelps (Plant Manager), E. J. Machowicz (Accounting), W. P. Humphreys (Production), T. M. Guy (Quality Control), A. James (Project Engineer), T. C. Spangler (Purchasing) and E. J. Scott (Development)

manufacture a complete range of polyester fibre products in the USA.

The concept upon which this joint company was based is quite a simple one—it married the polyester technology of ICI with the US marketing skills of Celanese. The fact that FII began to make a profit less than three years after start-up is a tribute to the wisdom and foresight of those who were responsible for planning the foundations of the company.* Remember that in 1958 it needed a good deal of faith and courage to believe that we could compete successfully in a sophisticated polyester market dominated by such a giant of American industry as Du Pont. It was done by picking a young and enthusiastic team from Celanese and ICI under the leadership of James H. Black, formerly Controller of Celanese. FII is now second only to Du Pont in the USA as a producer of polyester fibre, having caught up with and overtaken two other producers, Eastman and Beaunit Mills.

A group of seven department heads runs the daily operations of FII, and a management committee of five meets fortnightly under the chairmanship of Jim Black. The board of Fiber Industries Inc. has ten members and meets quarterly: once in Shelby, once in Harrogate, and twice a year in New York.

From the outset it was decided to erect the plant in stages as the sales demand grew. This plan had the advantage of spreading the capital expenditure and making sure that the equipment installed in each expansion was of the most up-to-date design. Design of Stage I, an 8,000,000 lb./year staple fibre unit, began early in 1959, and the unit started up on 1st April 1960. A short-term licence was obtained from Du Pont to operate the plant

* See an article entitled "Partners in Planning" by J. H. Black in the October 1960 issue of the *Magazine*.

until the US polyester patents ran out on 1st July 1961.

As a result of good machine design and expert training of production personnel at Wilton and at Millhaven, the CIL 'Terylene' plant in Ontario, the start-up troubles were reduced to a minimum. However, the quality problems were made more difficult by the fact that the market was held by 'Dacron'—the Du Pont product which had been established and improved upon for ten years. In order to meet the standards set by 'Dacron,' the plant had to be throttled back initially to a 6,000,000 lb./year rate.

At about this time FII decided to build the nucleus of a research team, as some of the technical problems of the American market were obviously unique and were not of direct interest either to ICI or CIL. A plant development group was also created to handle the daily technical problems and smooth the handover from research to production. Within a matter of months, basic principles and ideas were gathered from ICI and CIL and with admirable teamwork were applied to the Shelby plant.

A new concept of spinning was taken from Fibres Division Research Department at Harrogate, a new drawing process from CIL, and a new spin finish from CIL's Research Department at Millhaven. Welded together with local innovations into one completely new process at Shelby, these inventions gave FII a polyester staple fibre product ideally suited to the American market. At the same time, continuing process development work pushed the production rate up to 14,000,000 lb./year—75% above flowsheet design rates.

Meanwhile Celanese had not been inactive, but had developed a powerful marketing concept—that of licensing the trade mark 'Fortrel' only to those mills whose fabrics satisfied stringent

tests of quality and performance. Celanese technical service personnel were trained at Harrogate, and fabric styles, dyeing and finishing techniques, and advertising programmes were worked out with major customers such as Deering-Milliken, J. P. Stevens, Burlington Industries, and many others. All this, when backed by aggressive merchandising and advertising, pushed the sales along at an unbelievable pace.

The Stage II expansion at Shelby saw the addition of a 5,000,000 lb./year filament yarn plant early in 1961. Here again quality problems reduced the capacity of the plant initially, but research and plant development work brought up to flowsheet design rates by 1963. A Stage III expansion in 1962 and Stage IV in 1963 consisted of additional polymer and staple fibre facilities, together with tyre cord and industrial yarn machines. The total capacity of the plant now stands at well over 40,000,000 lb./year.

During this period FII's competitors reduced the price of cotton-blending staple fibre successively from 10s. 9d. to 8s. 2d./lb. and also introduced a succession of improved polyester fibres. Thanks to the efforts of the plant development group in improving the production rates, FII retained its profit margins, even at the lower prices. The Research Department similarly has been able to match many of the improved polyester products and also introduce one or two of their own.

Potentially, the most exciting development in polyester just now is the very serious consideration which major US tyre manufacturers, such as Goodyear, are giving to the use of polyester cords in tyres in place of rayon and nylon. This is a 375,000,000 lb./year market, and FII has developed new super-strength yarns which are being tested in tyres. In addition, a new polymerisation process has been developed at Shelby to cheapen the cost of tyre cord yarn, destined for an extremely cost-conscious and competitive market.

Another development, this time quite unexpected, is taking place in a 600,000,000 lb./year market currently held by carded American cotton. This is the work-clothes market of the USA—overalls, uniforms, blue jeans, etc. It is now being threatened by cheap imported cotton fabrics based on exported American cotton fibre, which carries a government subsidy of 7½d./lb. Disenchanted with this two-price system for cotton, for the first time in history the huge American carded cotton mills are blending polyester fibre with cotton and other synthetics to manufacture a superior product commanding a premium price.

With a plant in excess of 40,000,000 lb./year capacity, a total staff of over 500, and several expansion stages still on the drawing boards, Fiber Industries Inc. is now an established part of the American industrial scene. As always, this has been achieved by people, and I could write at length on the personnel and personalities in FII and of the drive and enthusiasm of my American colleagues. As readers of the *Magazine*, however, you may be more interested in the seventeen British families who are now an established part of the FII picture. As might be expected, because of their strong technical background, most of the men are in Research Department, one is in Production Department, and another is Director of Marketing.

The attractive salaries, the excellent climate (eight hours average daily sunshine) and the gregarious and hospitable warmth of Americans combine with the fiercely competitive challenge of the job to make living in the USA a most rewarding and satisfying affair.

As a tailpiece, I can tell you that in 1780 Lord Cornwallis lost

a major battle in the War of Independence just a mile or so from Shelby, but in the period 1959-63 a group of Englishmen have cemented lifelong friendships in Shelby and have helped lay the foundations of a most successful Anglo-American enterprise.



Research Personnel are (left to right): P. Paliyenko, P. Schaefer, W. N. Broatch, R. B. Macleod, T. C. Higgins (Section leader, Polymer), E. S. Hill (Assistant Technical Director), J. F. Clark (Section leader, Fibres) and C. Reed



First 'Fortrel' tyres. At a recent staff dinner the President of Fiber Industries, Mr. Jim Black (centre), was the fortunate recipient of the first set of commercial tyres using 'Fortrel' cord. Mr. Bailey Phelps (left) is seen presenting the tyres, with Mr. Peter Barrett looking on

People & Events



The Duke of Edinburgh watches Chris Buckle and David Morgan of Stowmarket factory taking part in the fire-fighting demonstration

Royal Visitor

On 30th and 31st May the Duke of Edinburgh flew his helicopter around East Anglia, visiting a number of centres to meet young people taking part in his Award Scheme and some of the adults who direct and help in the scheme. Just after lunch on the first day, two helicopters of the Queen's Flight (finished in Paints Division colours), one piloted by His Royal Highness, touched down on the sports field of Paints Division's Stowmarket Factory. The Duke was ac-

companied by Sir John Hunt and officials of the scheme. Stowmarket is the only major industrial concern in the area which is an operating authority for the Award Scheme.

During his visit the Duke saw boys at work in the Training Centre and on the plant and watched a joint fire-fighting and first aid demonstration by some of the trainees and boys from a local school. The very realistic demonstration, a test in connection with the silver and gold awards,

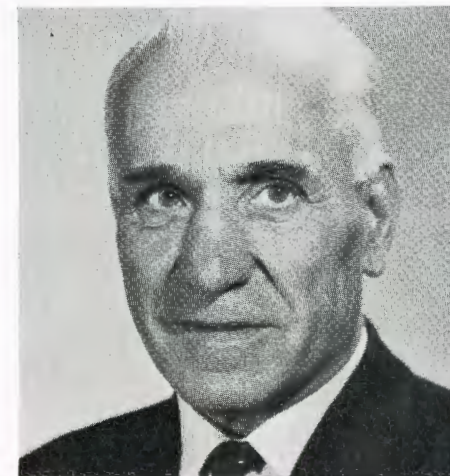
involved fires in the ground floor of a building, the old canteen and a nearby car, followed by an outbreak in a solvent store ignited by burning debris.

Among those introduced to the Duke were **Mr. A. L. Ward** (Education and Training Officer), **Mr. R. Oxley** (responsible for the fire service training at silver and gold standards), **Mr. F. Russell** (first aid instructor), **Mr. J. Daltry** (responsible for the fitness section) and **Mr. G. Kay** (dinghy building and sailing instructor).

Birthday Honours



Dr. Mayne Reid



Mr. Slack



Mr. Tolley

The Queen's Birthday Honours List included the announcement of a knighthood for **Dr. Ronald Holroyd**, one of ICI's Deputy Chairmen, the CBE for **Dr. E. Mayne Reid**, Managing Director of Richardson's Fertilisers Ltd., and the

BEM for **Mr. Herbert Slack**, a work measurement liaison officer at ICI (Hyde).

Dr. Holroyd, who joined ICI in 1928, has been a Director for the past 11 years and a Deputy Chairman since 1957. He is also Chairman of British Nylon Spinners and a member of the Board of ICI (Australia and New Zealand) Ltd. and of African Explosives and Chemical Industries Ltd. He holds M.Sc. and Ph.D. degrees of Sheffield University and an honorary D.Sc. of Oxford University. He was elected a Fellow of the Royal Society in 1960—a rare distinction for an industrial scientist—and is a member of the Ministry of Power's Scientific Council on Research and Development, the Board of Governors of Westminster Hospital, and the Academic Advisory Committee of the University of Sussex. (See also picture on page 126.)

Dr. Mayne Reid has been with Richardson's, which became an ICI subsidiary in 1960, for over 40 years and receives his award for services to agriculture. He is a Northern Ireland Government nominee of the Agricultural Institute at Hillsbury and is also a member of Belfast Harbour Commissioners. He was educated at Belfast College of Technology and Queen's University, Belfast, and one position he particularly cherishes is that of Vice-chairman of the Board of Governors of the former. He is a past president of Belfast Chamber of Commerce, a past chairman of the Northern Ireland Consultative Committee of the Egg Marketing Board, and a past chairman of the Northern Ireland Section of the Society of Chemical Industry.

Mr. Slack, who completes 34 years in the Company's service this month, has been a trustee of the Workers' Pension Fund since 1953 and is a former works councillor. Outside the Company he has a distinguished record of public service in Stalybridge. He is a former mayor—a distinction, incidentally, that he shares with his wife—and is currently chairman of the Finance Committee and deputy chairman of the Housing Committee. He is also a County JP and is president of the Stalybridge Co-operative Society.

A fourth award of interest is that of the BEM to a pensioner of Alkali Division, 73-year-old **Mr. Tom Tolley**. Mr. Tolley's award is for his work in connection with the British Red Cross Society, in which he has served for over 50 years.

Polythene in Mexico

A polythene plant is to be erected in Mexico by a newly formed company, Polyrey Ltd., in which ICI is a one-third shareholder.

The two other partners in the new company, each holding one-third of the equity, are Petroleos Mexicanos (Pemex), the Mexican State-owned petroleum group, and Gelulosa y Derivados, a private Mexican firm producing plastics and chemicals.

Using technical information supplied under licence by ICI, the company will

build and operate a plant capable initially of producing 20,000 tons a year of polythene and polythene compounds. It is scheduled to be in operation by the end of 1964.

Change of Name

Over the past months a number of ICI's subsidiary companies in Europe have announced changes of name. Now two American subsidiaries have followed suit. Arnold Hoffman & Co. Inc. has become ICI (Organics), Inc. and Imperial Chemical Industries (New York) Ltd. has changed to ICI (New York), Inc. The changes have been made for the sake of simplicity and in order to link the parent and subsidiary companies more closely in consumers' minds.

The Company acquired a majority interest in Arnold Hoffman & Co. Inc., whose head office is at Providence, Rhode Island, in 1950. This American company owned plants at Charlotte (North Carolina), Dighton (Massachusetts) and Cincinnati (Ohio), which were engaged principally in the manufacture of dyestuffs and textile auxiliary chemicals. Following acquisition, these activities were extended and recent years have seen further diversification in the organic chemicals field, to such an extent that a substantial proportion of the company's production now goes to industries other than the textile trade.

Imperial Chemical Industries (New York) Ltd. was formed in 1928 with predecessor companies in New York dating back to 1919. ICI (New York) does not manufacture, but operates as the representative of ICI in the USA, an important function being technical liaison with the American chemical industry.

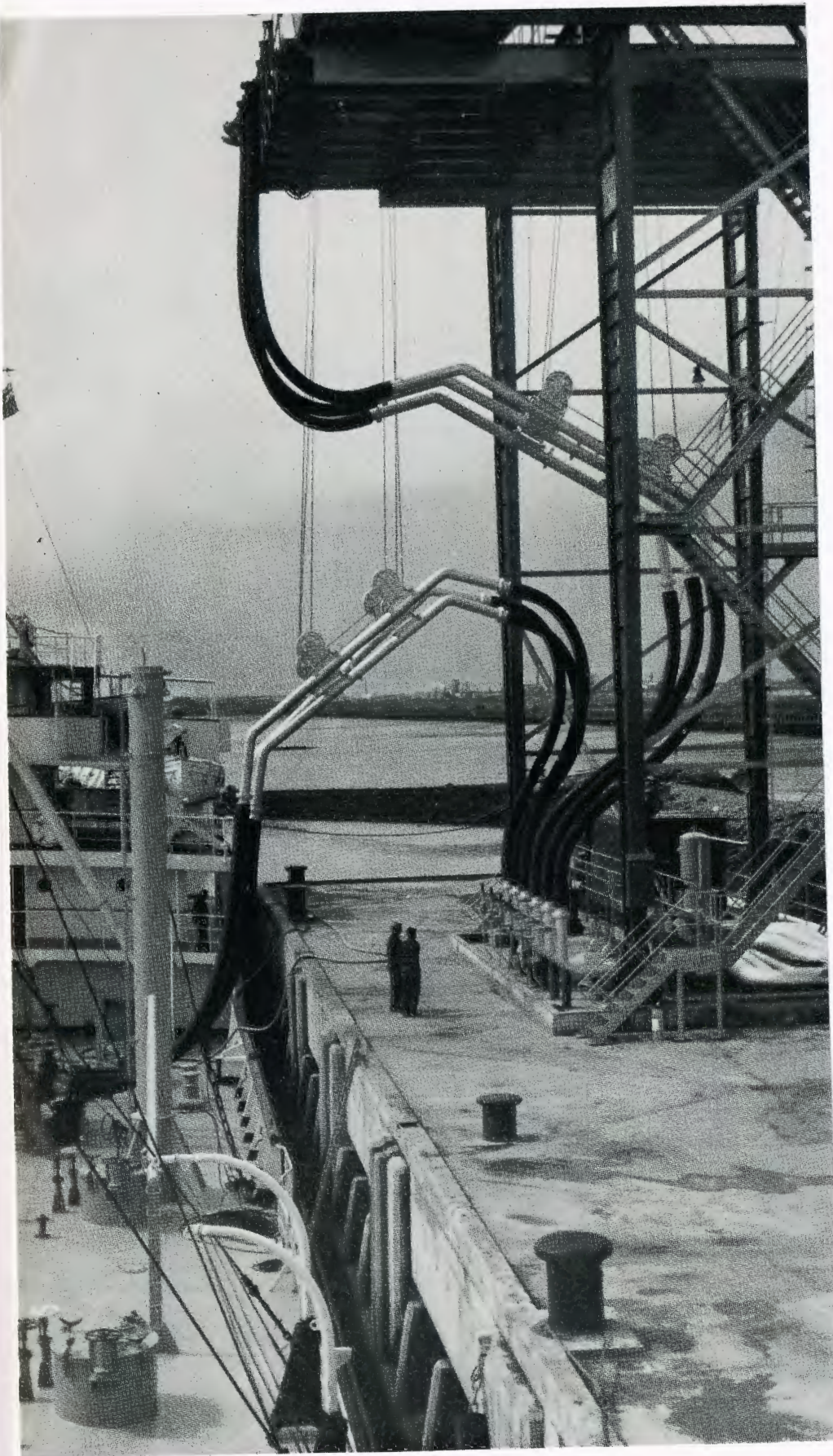
Close Co-operation

For many years a close co-operation has existed between Pharmaceuticals Division and the German firm Rhein-Chemie GmbH of Heidelberg, who have processed and distributed the Division's medical products in Germany. Now ICI and Rhein-Chemie have decided to extend and strengthen this co-operation by forming together a new jointly named company, Rhein-Pharma Arzneimittel GmbH.

Rhein-Pharma Arzneimittel has acquired all the assets of the Pharmaceutical Department of Rhein-Chemie and will manufacture and sell pharmaceutical products previously dealt in by Rhein-Chemie, as well as becoming the sole agent for Pharmaceuticals Division's medical products in Germany.

Rhein-Pharma at present employs some 260 people, having a registered office in Heidelberg, a factory at Neckarhausen and seven regional selling offices.

Mr. P. W. Cunliffe and **Mr. D. M. Lintott**, both of Pharmaceuticals Division, have been appointed to the board of the new company.



First Oil Delivery. Unloading the first cargo of crude oil for the new refinery of HOC Division on its North Tees jetty. About 18000 tons arrived from Rotterdam in the Shell Tankers Ltd. vessel "Kelletia." The refinery is capable of distilling one million tons of crude oil a year

Oldbury Works to Close

General Chemicals Division is to cease manufacture at Chance and Hunt works at Oldbury by the end of 1964 or early 1965. The Works employs 370 people in the manufacture of chemicals largely used in the metal trades in the area. The most important products are sulphuric acid, chlorosulphonic acid, hydrochloric acid, saltcake, and heat treatment salts. Production of these chemicals will be transferred, in the interest of efficiency, to larger ICI factories which have production capacity available. Part of the Oldbury site—the projected M5 motorway route crosses the Works—will be used as a depot for distributing these products to customers in the area.

Chemical manufacture at Oldbury dates back to 1835, when Chance Bros., the Smethwick glass manufacturers, started a chemical works there to make the saltcake needed for their glass production. Other chemical products were gradually added to the range and were sold to local industry until Chance's chemical works became an important concern in its own right. In 1890 it became the Oldbury Alkali Co. and in 1898 was amalgamated with Wm. Hunt & Sons of Wednesbury (with works also at Stafford and Cwm Bran) to form Chance and Hunt Ltd. Brunner Mond purchased Chance and Hunt in 1917, and so the works was part of ICI from its formation in 1926.

Incidentally, this year sees the centenary of the original Alkali Act of 1863, in which 84 works were registered. These works came under the Act because their manufacturing operations involved the production of hydrochloric acid (then known as muriatic acid) as a by-product of saltcake manufacture. Of the handful of works from the original list still surviving (we know of half a dozen, but there may be more) Chance and Hunt is the only one which would still come under the Alkali Act of 1863 in its original terms, since the works has been continuously, and remains, the site of saltcake and hydrochloric acid manufacture.

New Plans for FII

As we go to press the news breaks that the activities of Fiber Industries Inc. (the subject of our article on page 116) are to be extended to include the manufacture of nylon.

As a result of the new agreement, the ownership of FII will be adjusted to 62½% Celanese Corporation of America, 25% ICI and 12½% British Nylon Spinners. The proposals are subject to the consent of the UK Treasury.

The broadening of the basis of operation of FII to include nylon will greatly strengthen the company. Benefiting from the experience of BNS as one of the three largest producers of nylon yarns and of CCA as a major fibres company in the US, it will be possible for the company to



'Flovic' at the Royal Tournament. 'Flovic,' ICI's pvc foil, was used for one of the main features of the RAF display at this year's Royal Tournament. The display showed how a man wounded in jungle fighting in Borneo would be flown to hospital in Britain within 19 hours. To illustrate the operation, a map 50 ft. x 30 ft. was constructed from sheets of white 'Flovic' foil. The land masses, outlined with fluorescent paint, and the flight route, shown by flashing lights, showed up clearly against the matt surface of the 'Flovic.' The lightness of the 'Flovic' meant that the map could easily be raised to the roof of the Exhibition Hall at Earls Court during the other displays

manufacture a full range of nylon products for the US market.

Plans involve the building of an initial plant, expected to come into operation during 1965, with a capacity of 40m. lb. a year of nylon 6-6 yarn.

CCA is a major manufacturer in the US of products which include organic chemicals, pulps, fibres, polymers and plastics. Under agreements entered into recently, CCA is to manufacture, in the US, ICI's polyester film known as 'Melinex,' and is participating in a venture with ICI to manufacture the American company's acetal copolymer plastic in the UK under the trade name 'Alkon.'

Unusual Application

In 1959 Dr. W. J. Jenkins, a former chairman of Nobel Division, visited Mr. R. M. Currie, head of Central Work Study Department, to discuss the difficulties

experienced by a firm called Thermega Ltd. This was a small organisation situated at Leatherhead which had in its employment some 60 ex-servicemen suffering from some degree of mental instability. Their conversation resulted in Work Study Department sending two trainees to the firm; and so began one of the most unusual applications of Work Study that has come within ICI's experience. Thermega was not only the first company in the United Kingdom to manufacture electric blankets—it was the first to recognise that work was a possible cure for psychiatric illness. Hence the Work Study specialists had to keep constantly before them the need of the workers concerned to feel a strong sense of purpose and significance.

In the early 1950s several large companies entered the electric blanket business. A price war developed, and it became apparent that a drastic upheaval would be necessary if Thermega were to survive. In



Record Catch. It was the boulder and not the mermaid which was caught in the 'Ulstron' trawl net. Both were on the Fibres Division stand at the first World Fishing Exhibition held recently in London. The boulder, which weighs 2½ tons, is believed to be the largest ever hauled aboard in a trawler's gear. The crew of the trawler "Ross Mallard" found that the 'Ulstron' cod-ends (seen behind the mermaid) were still serviceable and in fact are at sea again

the annual report and balance sheet of the Ex-services Mental Welfare Society just published, Dr. Jenkins, the chairman of Thermega, points out that the company did not attempt to secure a subsidy in view of its special work. Instead a total reshaping of policy took place and a bold programme of expansion was begun. The Ex-services Mental Welfare Society provided a modest amount of working capital; the Ministry of Labour continued to provide aid; and ICI Central Work Study Department weighed in to such effect that productivity over the past five years has risen by 300% and there has been a corresponding rise in sales. At the same time working hours have been reduced and rates of pay raised, and each year since 1961 the company has been able to employ a greater number of psychiatrically disabled men and women.

ICI's support continues: quite recently Mr. G. K. Cooper of Central Work Study Department has conducted a follow-up



Safe behind 'Perspex.' The Leonardo da Vinci cartoon—bought for the nation for £800,000—is again on show at the National Gallery and is now protected by a concave screen of ICI 'Perspex.' The screen allows the public the best view possible of the masterpiece, while being strong enough to protect it from damage, whether accidental or malicious

study on the manufacture of electric blankets, while **Messrs. N. J. Cooper** and **H. Fine** (senior trainees engaged on three months' special training in Work Study) have investigated the servicing and repair of these products. Thermega feel that these studies may increase productivity even further.

Birthday Party

No birthday party can be considered complete without a cake. At the anniversary dinner held on 31st May to celebrate the thirty-fifth birthday of Companhia Imperial de Industrias Quimicas de Chile,

and attended by staff with 20 years' or more service, there was a magnificent one complete with the appropriate number of candles. It was a charming gesture on the part of staff not qualifying to attend the dinner, who signed themselves "Los Teenagers." Our picture shows **Sr. Eduardo Frias**, to whom, as the longest serving member of staff with 34 years to his credit, fell the honour of blowing out the candles before the cake was cut.

Companhia Imperial de Industrias Quimicas de Chile, or ICI (Chile) as it is more generally known, was originally formed in 1928 to handle ICI imports previously handled through agents. Turnover in 1962 topped the £1 million mark.



Blowing out the candles on ICI (Chile)'s birthday cake

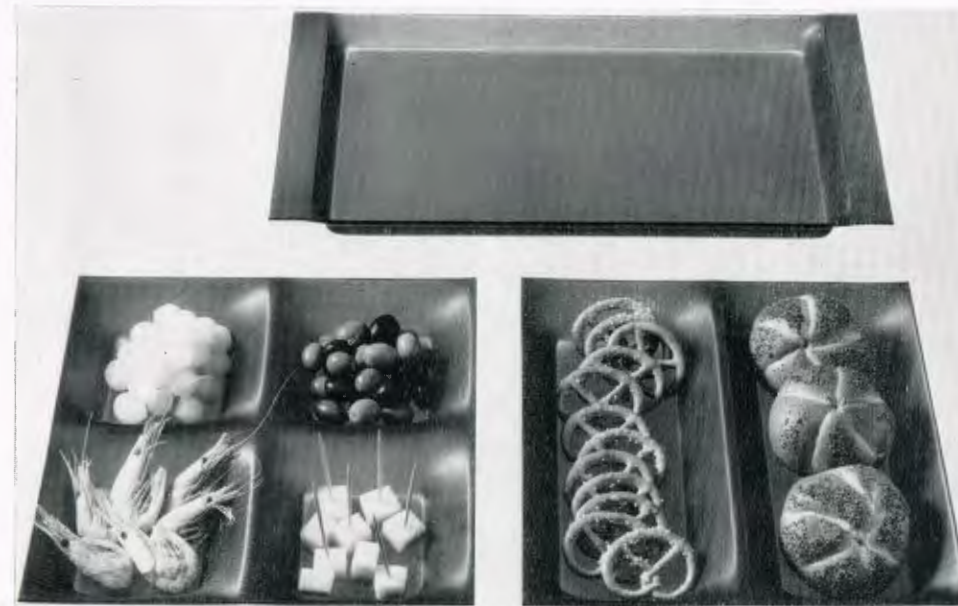


A "Coal Hole" Cushion

Mr. John Page-Phillips in his article on coal hole covers on page 137 mentions two ways of using them for decoration around the house. He has used some of his favourite rubbings to paper a wall of his home, and a particularly attractive plate, he suggests, could be used purely as an item of decoration, possibly lit from behind to throw up the pattern. This, of course,



presupposes either the possession of such a coal hole cover or a willingness to embark on a nocturnal rubbing expedition. An easier way of cashing in on the decorative



Design Centre Award. Trays and hors d'oeuvres dishes (left) made by Xlon Products in ICI 'Perspex' which has been given a grained finish received an award in the 1963 selections made by the Council of Industrial Design. ABOVE: Some brand new trays from Xlon. The designs are in black and gold on white or clear 'Perspex' and are based on nineteenth-century inn signs. Prices from about £2

value of these old plates which may appeal to the more nimble-fingered among our women readers is to use them as embroidery patterns. Transfers of six designs for cushion covers are available from the Embroiderers' Guild, 73 Wimpole Street, London W.1, who say they can be used equally well for quilting, patchwork, canvaswork or woolwork. They cost a shilling each and the Guild will send on approval.

Mr. Begg Retires

Mr. K. G. Begg, whose retirement as Chairman of ICIANZ Ltd. has been announced, has played a major part in the rapid development of the company in Australia and New Zealand.

During his 23 years' service, ten of them



as Chairman and Managing Director, he has seen the company change from major dependence on imports, with only minor local manufacture, to being one of the country's largest manufacturing companies.

Mr. Begg was born in Melbourne, educated at Melbourne Grammar School and later gained business experience with several Melbourne merchant firms. Moving to New Zealand, he became the sole proprietor of Dyes and Chemicals Ltd., who merchanted dyestuffs, chemicals, textile machinery and yarns, photographic materials and cameras.

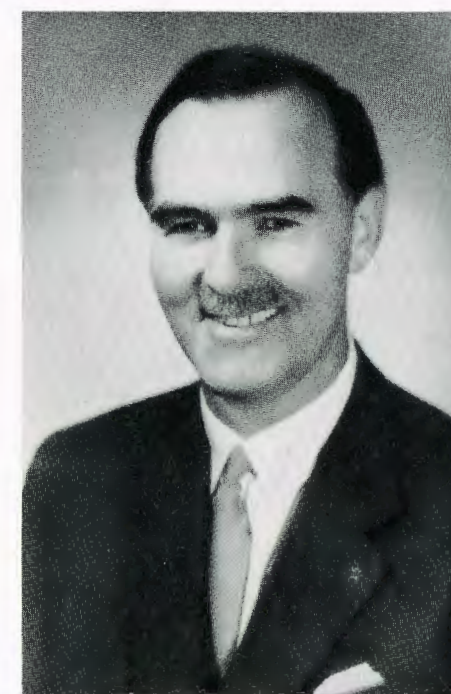
In 1940 he sold his interests to ICIANZ and became that Company's chief executive in New Zealand. He reorganised and expanded the Company's New Zealand operations, and then in 1942 transferred to Melbourne, where he was appointed Commercial Director in 1946. **Mr. Begg** became Managing Director of ICIANZ in 1948 and was appointed Chairman and Managing Director in 1953.

In addition to his directorships in subsidiary and associated companies of the ICIANZ Group, **Mr. Begg** has had wide interests outside business. He is a Trustee of the National Gallery of Victoria.

Mr. Glenn Takes Over

Mr. J. R. A. Glenn, whose appointment as Chairman and Managing Director of ICIANZ in succession to **Mr. K. G. Begg** was announced last month, is widely known for his activities in Australian business. Born at Sale, Victoria, he is a member of a pioneering farming family. He was educated at Scotch College, Melbourne, and at the University of Melbourne, where he graduated in engineering in 1933, and was a rowing blue.

He joined ICIANZ in 1935 as the Works Engineer at the Nobel Explosives Factory, Deer Park. From 1937 to 1944, as a mem-



ber of the company's technical staff, he played a major part in the design and construction of a number of wartime chemical and explosive factories for the Commonwealth Government. After spending two years with ICI in North America and Great Britain, he returned to Australia in 1946 and became successively Chief Engineer of ICIANZ, Controller of the Nobel Group, Technical General Manager and, since 1953, a Joint Managing Director.

Sharp Shooting

Mr. John Hall, who works in the Ammunition Department of IMI (Kynoch), has the honour of being this year's British Small-bore Champion at Bisley. In addition, **Mr. Hall** came second in the Grand Aggregate for the week, scoring 574 points



out of a possible 600. He has been a member of the Proof Department since 1935 and has been in the final for the British Championship 19 times. This was his second outright win. He has competed in the world championships in Helsinki and Cairo as well as shooting in Canada and America.

Two other IMI marksmen also had successes in the individual events at Bisley. **Mr. A. D. Skinner** was second in the Norman Headland Memorial Bowl competition, and **Mr. T. J. Knight** was also runner-up in the *News of the World* Challenge Cup.

Mr. Hall and Mr. Skinner have also been selected for the British team to compete in the European Championships at Oslo later this month.



Athletics International. The athletics match between Great Britain and the Benelux countries on 8th June was held at Billingham Division's athletics stadium. The British team won by 113 points to 98. ABOVE: Lord Fleck, a former chairman of ICI, presents a medal to C. J. G. Shillington (GB), winner of the one mile event



Palace Ceremony. Sir Ronald and Lady Holroyd photographed outside Buckingham Palace after the Investiture on 16th July. Sir Ronald, one of ICI's Deputy Chairmen, received a knighthood in the Birthday Honours List. (See also page 121.)

Re-elected

Mr. Russell Currie, Head of Central Work Study Department, was unanimously re-elected President of the European Work Study Federation for a further two years at the 2nd European Work Study Congress, held at Church House, Westminster.

For many months before the Congress ICI was acting as host to the Congress Secretariat. This was in charge of Miss Dorothy Holt, who for many years was secretary to Sir Ewart Smith (who incidentally chaired one of the sessions at the Congress).

In his concluding speech at the Congress Mr. Currie paid a very warm tribute to Miss Holt's work, pointing out that she was herself one of the pioneers of Work Study, since she was working with Sir Ewart in the formative stages of the Work Study Department in ICI just after World War II.

Obituary

Mr. G. Haddock

It is announced with deep regret that Mr. G. Haddock, who at the time of his retirement in 1958 was Managing Director of the Leathercloth Division, died suddenly on 15th June. He was 66.

Dr. J. S. Gourlay, Group B Director, writes:

It was with great regret that we who were old friends and colleagues heard of the sudden death of Mr. George Haddock. Like many from the West of Scotland he joined the Company in his early teens, armed with the intermediate certificate of the Scottish Education Department and the will to qualify in his chosen profession, which was accountancy in the first instance.

George Haddock was born in Glasgow in 1896, joined Nobel's Explosives Co. Ltd. in September 1913, and by 1921, after serving for 4½ years with the Highland Light Infantry, qualified as an Associate of the London Association of Accountants. In addition, in 1922 he was admitted by examination as a Fellow of the Chartered Institute of Secretaries. By that time Nobel's Explosives Co., Glasgow, had become Nobel Industries Ltd., London, and George was transferred in May 1921 to the London Office.

The London period lasted until 1926, and it was during this period that he taught accountancy in evening classes, encouraging younger men then, as he did throughout his life, to equip themselves for their work and to pursue a progressive but critical approach to the problems facing them. These characteristics flowered to their full in the Leathercloth Division—now ICI (Hyde) Ltd.—to which he was assigned in 1926 as an accountant, later to become Division Secretary and Accountant.

George Haddock remained with ICI (Hyde) until he retired in 1958, advancing from Division Director in 1944 to Managing Director in 1954.

It was in the period 1950-58, when winds of adverse character buffeted the Division, that his sterling qualities were evident for all to see, and perhaps none appreciated more his contribution at this time than did his immediate colleagues.

He was ever conscious that industry was dependent on human relations, and to this aspect he brought understanding and sympathy without sloppiness of thinking.

Mr. J. K. Batty Retires

Mr. J. K. Batty, Chairman of the Alkali Division, retires from ICI on 31st August.

Mr. R. A. Banks, ICI Group A Director, writes:

Keith Batty came to Brunner Mond in 1926 after reading history at Merton College, Oxford, and qualifying as a solicitor in Manchester. He was Assistant Secretary of ICI (Alkali) Ltd. in 1927, became Secretary in 1936, was appointed to the Division Board in 1942, becoming Managing Director (combined with being Personnel Director) in 1945 and Division Chairman in 1956.

In Brunner Mond the salaried staff were looked after by the Secretary's Department—there was no Staff Department—and so Keith became involved early in his career not only with some notable legal victories, but also in the care of the staff. This was fortunate for everyone, because Keith has always liked people and understood them, and he has become a friend and adviser to large numbers of staff and payroll in the Alkali Division and other parts of ICI. He was always ready to listen to their personal or family troubles and to give them sound advice. He also became an acknowledged expert in some of the more technical aspects of personnel work, particularly pensions, being a trustee of two ICI Pension Funds, and he was chairman of the committee appointed to recommend whether ICI should join the State Graduated Pension Scheme.

In another field Keith has made a notable contribution, working successfully throughout his career for a better understanding between industry and local government in Cheshire, to the great benefit of both. His

50 Years' Service

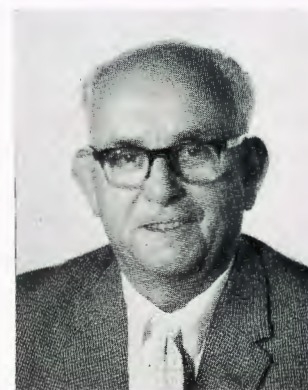
Mr. J. Inglesfield
Alkali
Division
(30th June)



Mr. F. Gamble
Dyestuffs
Division
(31st May)



Mr. J. J. Sneezeham
General
Chemicals
Division
(30th June)



Retirements

Some recent announcements of retirements include: **Alkali Division:** Mr. J. K. Batty, Chairman (retiring 31st August). **Billingham Division:** Dr. H. S. Hirst, Director (retiring 30th September). **The Regions:** Mr. F. Walls, Regional Sales Manager (Plastics Dept.), Southern Region (retiring 31st March 1964). **ICI (China):** Mr. J. Hackney, Chairman (retiring 30th November).



Mr. Batty admires a silver tray, part of a retirement gift from Alkali Division staff. With him is Mr. D. H. Carter, Chairman of General Chemicals Division and Chairman-designate of Alkali Division

list of public offices includes Justice of the Peace, member of the Weaver Navigation Trustees, the Upper Mersey Navigation Commission, and the Mersey Docks and Harbour Board; chairman of the Cheshire Brine Subsidence Compensation Board, and president of the Northwich Council of Social Service.

Keith is a great trainer and a good

leader, largely because of his Christian virtue of always putting the other person first, and to this he adds a cool head and balanced judgment.

Though he and his wife will be much missed in ICI, the mid-Cheshire district, which they have made their home, will continue to enjoy their help in many fields, and we wish them well.

GARDENERS' GAZE

by Percy Thrower



It is during August and September that we reap the benefit of the work we did earlier in the year. The summer flowering plants are at their best, the roses still flowering well, more hardy border plants coming into bloom and, what is very important to me, there is an ample variety of fresh vegetables and salads as well as fresh fruit. What a blessing a garden seems in the cool of the summer evenings and never more so than at week-ends when one hears on the radio of the chaos on the roads. More and more

people will, I am certain, be turning to the peace and quiet of the garden rather than venturing out on the roads at week-ends during the summer.

Having had a new house built about six miles from Shrewsbury I am busily engaged in making a new garden from what was a field. It gives one a sense of achievement to see a garden taking shape and struggling against our varying climate to keep late-planted trees and shrubs alive is well worth every moment spent.

Exciting events in the diary for August

are the two big flower shows, Shrewsbury and Southport, where we shall see many plants, shrubs and new roses, gladioli and chrysanthemums that next year we shall want to have in our own garden. Even though my new garden is an acre and a half in extent I am aiming at keeping the recurring work down to a minimum, with shrubs, trees and roses, and ground cover plants to keep weeding down as much as possible. I shall be on the look out for these permanent plants and shrubs and introduce them into the garden as and

LEFT: Crowds admiring the rock garden exhibits at Southport Flower Show, one of the big events on the horticultural calendar

when possible. Mowing the grass is a job which takes up a lot of time but with a good machine it is a pleasant task. The larger part of mine is the original field grass and with continual mowing with a rotary cutter, and leaving the grass mowings on, it is improving week by week.

During the past few weeks I have fed the grass immediately round the house with 'Plus' fertilizer at two ounces to the square yard and it is possible to see to the inch where the fertilizer has been applied. Spraying with 'New Verdone' has eradicated the clover and other weeds. These are jobs that anyone with a lawn would be well advised to do now. On one side of the garden I have a large hedge and overhanging trees. I have sprayed under the hedge with 'New Verdone' and how sick the nettles, cow parsley, docks and other weeds are looking. There is no apparent damage to the hedge or trees but the weeds, I am sure, will have a struggle to survive. Those that do will be sprayed again in a week or two's time. Between the shrubs I have had the opportunity of trying a new weedkiller that every gardener must surely be looking for. Every weed was killed and no damage was done to any of the shrubs; what an enormous time saver this will be.

A few weeks back I was at Fernhurst and Jealotts Hill and there I was most impressed with the experiments in this direction and in other exciting things. We can rest assured that much is being done on our behalf to make our gardening easier and consequently more pleasant. There is, I can see, a much wider scope for menazon, which at the moment is available only in 'Abol X.'

At Fernhurst, too, I saw all-year-round flowering chrysanthemums looking exceptionally fine although personally these leave me rather cold. I am perfectly satisfied with chrysanthemums from September to January. The buds are beginning to

develop on the outdoor flowering chrysanthemums and soon the petals will begin to unfold. If they are not protected the petals will be badly marked by wind and rain. The cheapest method of protecting them is to place paper bags over the buds as the petals begin to show—the bags must be of greaseproof or other similar paper, not brown paper which would exclude the light and spoil the colour of the flowers. To make sure the chrysanthemum plants are free from aphids and to prevent capsid bug damage, spray them now with the all-purpose insecticide 'Sybol.' Feed them with 'Solufeed' dissolved in water to give the flowers a fine finish.

Another routine job is cutting off the fading roses to encourage the growth of new shoots for later flowering. Here again I find it necessary to spray with combined 'Abol X' and 'Tulisan' spray, and a feed now with 'Plus' or 'Solufeed' will ensure good quality roses until late in the season.

Our best stand-by for summer flowering, the geranium, has once again come up to expectation, with flowers following one after another since they were planted at the beginning of June. There was a scarcity of these at planting time because of the many losses during the very severe winter. Now is the time to begin working up a good stock for next year in the hope that we shall not have another such winter to contend with. A shoot cut from each plant now will in no way spoil the bright display and these made into cuttings will root readily in the open garden. The shoots will need to be four or five inches long with four or five well developed leaves. With a sharp knife, cut straight across just below the bottom leaf and remove two or three leaves. The cuttings, if taken in August, can be put into a partially shaded part of the garden. Sprinkle some sand over the surface first and put the cuttings in a least half their length below the soil. Water them well

and in three to four weeks they should have formed their roots. They can then be lifted, put into small flower pots and put into the garden frame.

I find growing plants from cuttings a fascinating side of gardening and at this time of year I put in cuttings of my favourite shrubs. An elaborate frame is not essential for getting these to form their roots. An ideal propagating frame can be made from the four sides of a box eight or nine inches deep. Place this in a partially shaded part of the garden and mix in with the existing soil a liberal amount of coarse sand and garden peat. Cover the frame to prevent loss of moisture and to keep the cuttings from flagging with glass or a sheet of polythene.

The ideal cuttings are shoots of this season's growth eight to nine inches long and these can be found on such shrubs as weigela, forsythia, escallonia, olearia, ribes, conifers of various kinds, buddleia, spiraea, berberis, broom and a host of other valuable garden shrubs. The shoot should be pulled away from the main branch with a portion of the old wood attached, this gardeners call a "heel." With a sharp knife trim off any loose bark or wood and cut off one or two inches of the soft top of the shoot. A few of the bottom leaves will need to be cut off and the base of the cuttings dipped into a hormone rooting powder. Put the cuttings into the improvised frame half their length below the soil, press them in firmly and water thoroughly. Cover the box with the polythene sheet or glass and water again when the soil shows signs of drying. The cuttings should be rooted in six to eight weeks and these, like the geraniums, can be potted out in small flower pots and put into the garden frame. We can do so much in this way to save expenditure in the garden and plants raised like this are much more personal to us than those we buy.

Builder's Mate

by Joan Eadington

In countries like Finland and Sweden it is quite usual for families to have summer houses tucked away in quiet beauty spots. Such holiday homes act as ideal shock absorbers to what may well be a tense and hard-working existence.

In England, with its population of over 550 people to the square mile, the nearest answer to the summer house has been the caravan. But as more and more industrial breadwinners seek annual peace and seclusion, perhaps the summer house idea will grow.

My husband, James, and I had always idly dreamed of our own holiday home: a place where we could go—even at Christmas: a place to relax in with the whole family: a place where we could paint, walk, and breathe really fresh air . . .

But we hardly considered it as feasible because of the expense. It was not until we saw a plot of land advertised for sale in the Lake District (with building permission granted) that we really began to take the idea seriously.

The land was of reasonable price and amazingly well situated, and it supported an old ruined stone barn.

When James went to take his first look at it, he bicycled through a winter blizzard from Penrith station along the shores of Ullswater and then climbed the road to the site. And even in those conditions he was impressed by its beauty, for we overlook the lake and have hills and mountains on all sides. We decided there and then that to invest in a piece of land in the heart of the country would be a far better provision for our future than say, buying a car. And this it has proved to be, for even without our house being built it has provided us with a free camping spot throughout our years of building, and has been ideal for the three children.

The one great asset, of course, was that my husband can build. But building on one's own, with only a wife as a part-time

and unskilled labourer, is a daunting proposition.

James designed a simple, three-bedroomed bungalow type house, which faces south, and has a large studio living room with a north light. The plans were, thank goodness, approved and so we set out to build in our spare time, which amounted to just over three weeks in the year—and as many weekends as we could afford.

Our first step was to make provisional shelter for camping while doing the work and also for storing materials such as cement. This was done by repairing a small stone byre (an offshoot of the barn), and James made it waterproof and also put in a couple of old windows, which the farmer kindly gave us. Needless to say, this was to be only a temporary residence and is scheduled for demolition in the near future!

Our first camping days were memorable for their lack of facilities. It seemed to rain the whole time and we cooked food on a small damp, smoking fire. And although the children had camp beds, James and I slept on wooden boards, which never got any softer. But the children enjoyed themselves from the word go. There was always plenty of building sand to play in, and streams to sail boats in, and fells to climb, and farm animals to see.

Meanwhile, we tackled the job of preparing the site for our house. This entailed stripping off all the grass and digging trenches for the concrete footings, and on our stony ground a pickaxe came in very useful. As a matter of fact I found that labouring with a pickaxe and carrying large stones, grim as it may sound to some, is rather a nice, steady, mentally restful occupation—provided you aren't hurried, that you work in moderation—and that the weather is good. It is good for the figure too, and tightens up flabby muscles!

Our second major task, which brings back horrible memories, was that of doing

the floors with ready-mixed concrete. The concrete-mixer came grinding up the hill to see us on a boiling hot summer's day and could not manage to get the concrete right on to the site. The result was that James and I had to wheelbarrow tons of quickly setting concrete on to the site ourselves—the most energetic day in my life as a housewife!

As will be gathered, we have had many ups and downs, but I am proud to say that James has a gritty streak of determination in him and we have all but reached our goal.

We hope to move out of our old stone camping hut this year, in spite of now having such luxuries as a calor gas ring, a government-surplus solid fuel stove and a feather mattress to put on the boards!

James has completed the gable ends to the house (they are built from the stones of the old barn and present a very good effect of natural colour and texture). He has put in the windows and built up the other two walls. With the help of some tall ICI friends and a twelve foot ladder he has put up the roofing timbers and is now at work on the roofing felt. We are both thrilled to see our summer house standing there so nobly in the place of what was recently just an old ruined barn in a field.

As a postscript I must add that many people say, "Well, but how will you get on when you come to the plumbing, and the insulating, and the decorating?" But surely, thanks to the progress made in the very industry we are escaping from, we shall find those 'Alkathene' water pipes, that non-erosible, no-need-to-paint, guttering, that plasterboard, that marvellous stuff for insulating roofs, and those cans of indispensable, unbeatable 'Dulux' paint, and it will all prove to be just "chicken feed"?

And meanwhile, if any other ICI wife would like the recipe for mixing mortar . . . she has but to get in touch!



The site photographed at Easter 1962



Whit week 1963

Our man in Istanbul

Few, if any, of our men overseas can claim such a long and intimate acquaintance with the fortunes of the companies they now head as Kenan Sesbes, managing director of ICI (Turkey) Ltd. This sixty-one-year-old Turk joined ICI (Levant) Ltd. as agricultural adviser to the Turkey Branch Office at Istanbul when it was opened in 1931. Two and a half years later he was appointed manager of the office and he has been in control of ICI's affairs in Turkey ever since.

His headquarters—in Tophane, down in the harbour area of Istanbul—is a pleasant five-storey office and warehouse building, designed by the ICI Architectural Section at Millbank. It is also his home, for he and his wife have a delightful penthouse flat above the offices, well known to and much envied by ICI visitors to Turkey, in particular for the spectacular view of the Bosphorus and Sea of Marmara. From Tophane, Mr. Sesbes directs the fluctuating fortunes of ICI (Turkey), which have risen from a pre-war level of around £80,000 annual turnover to a ceiling of nearly £2 million in the early 1950s and down again in recent years to under £1 million, a none too happy situation, quite outside either Mr. Sesbes' or ICI's control and due to Turkey's chronic foreign exchange difficulties.

Before the war the Istanbul Office was primarily concerned with the introduction

and sale of fertilizers and crop protection products. Turnover climbed steadily but not spectacularly to £82,000 in 1939, by which time the staff numbered eleven. Until 1941 the office was administered by ICI (Levant) from Palestine. However, following the outbreak of war, this situation became increasingly impracticable, and in 1941 a new UK registered company—ICI (Turkey) Ltd.—was formed, operating through a branch office in Istanbul. Mr. Sesbes was appointed a director of ICI (Turkey) and general manager of the Istanbul Branch. Trade flourished in neutral Turkey and by 1945 he had increased turnover to over £600,000, and his staff to 45, to cope with the extra business. The end of the war saw a further upsurge in the rate of Turkish imports due to the enormous strides being made in industrialisation. Under Mr. Sesbes' energetic and astute guidance ICI trade with Turkey expanded rapidly to reach a peak turnover in 1952 of nearly £2 million, by which time the staff had increased to over 70. Incidentally there can be few ICI offices which have a staff of such mixed nationality. On the strength of the Istanbul office there are Turks—including two Japanese-born Turks whose native language is Japanese—Armenians, Greeks, Jews, and an expatriate Briton.

During the next few years Turkey's foreign exchange difficulties became acute

and by the end of 1954 £900,000 due to the Company was blocked in Turkey. Drastic economies had to be effected in the organisation and by the end of 1955 Mr. Sesbes had reluctantly to reduce his staff to 40.

In recent years business has been very difficult, due not only to Turkey's shortage of foreign currency but also to increasingly severe competition, from both West and East European suppliers and, in some cases, lack of available supplies for export from Britain. It says a lot for Kenan Sesbes that, despite all these handicaps, he has succeeded in maintaining the enthusiasm and loyalty of his staff and of building up demand for new, sophisticated products like 'Procion' dyes and 'Terylene' to an extent that largely offsets reduced sales of such traditional ICI exports as explosives, alkalis and sulphate of ammonia.

ICI (Turkey) now handles the whole range of ICI products except for pharmaceuticals and plant protection products, which are made up and packed locally by agents in Turkey. In addition the company now holds agencies for a number of British and foreign firms including, rather surprisingly, CUF, the largest Portuguese maker of nitrogenous fertilizers and superphosphate. The reason for this is that, even if available for export, British fertilizers can no longer compete in the Turkish market owing

to higher transport costs compared with either the West or East European product.

Traditional alkali products now take second place to dyestuffs as ICI (Turkey)'s most profitable line, and 'Terylene' sales are rising fast. Plastics sales, however, although Turkey now has numerous plastic-consuming factories and imports plastics to the tune of about £2 million a year, are negligible. This situation is a particularly galling one for Mr. Sesbes, as there is little likelihood of the situation substantially altering in the foreseeable future. For Turkey's needs are almost entirely supplied by the USA, or by underdeveloped countries receiving US aid, under special trading restrictions imposed on Turkey with the granting of US financial aid.

Like many other Turks of his generation, Kenan Sesbes was born and brought up in Greece, where he first attended the German School and then the French School in Salonika. This was followed by three years at Berlin University, where he graduated as an agronomist from the Agricultural College. Besides Turkish, French and German, he also speaks fluent English and fair Greek. He is extremely well read, fond of art and the theatre, and a keen golfer. His physical appearance is striking. At 6ft. 2 in. he would be tall for an Englishman; for a Turk he is quite exceptionally so.

No one who comes into contact with him remains for long impervious to his great charm, and he appears to command a quite exceptional loyalty and devotion from his staff. His qualities as a diplomat are considerable. His advice was frequently sought by British and American officials during the war years in connection with Allied allocations of chemicals for Turkey, and the Norwegians appointed him their Consul-general in Turkey, a post he still holds.

He brought off his biggest business coup in 1956 when he succeeded in de-blocking nearly £1 million due to ICI (Turkey) by a brilliant piece of negotiating, beneficial to both parties to the bargain. No other British company managed to get its blocked funds released without a loss, and some still wait—nearly ten years after—to get their funds finally freed.

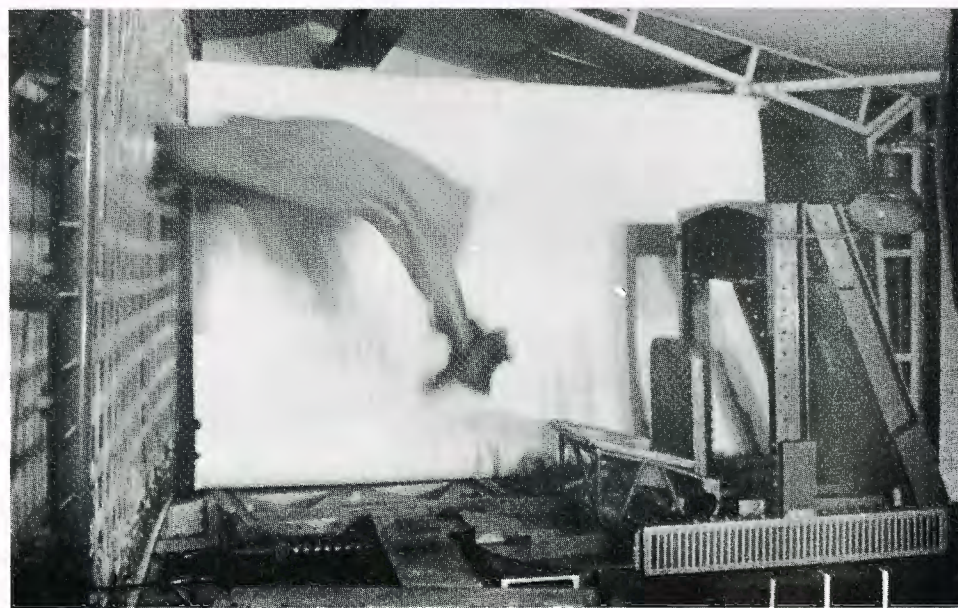
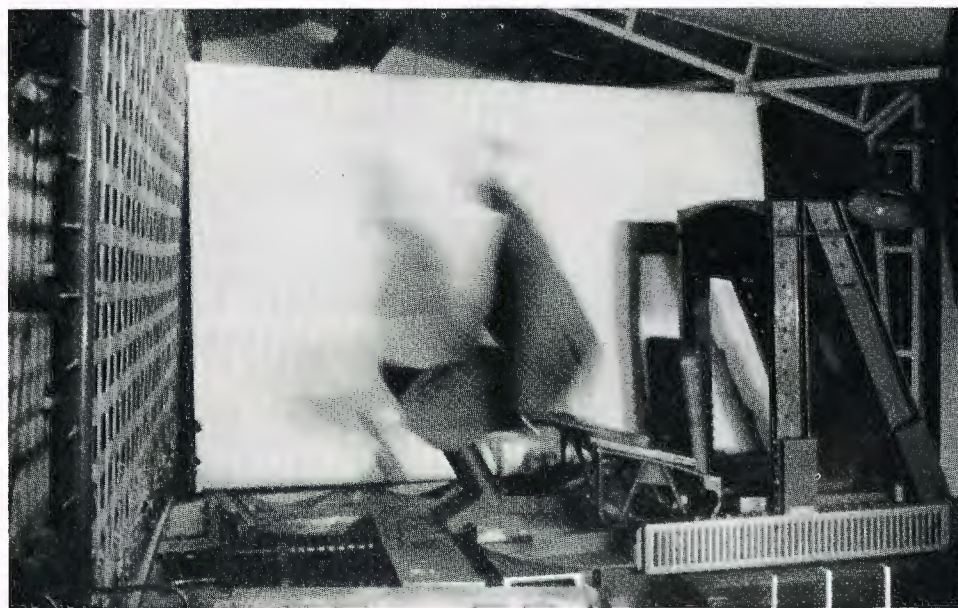
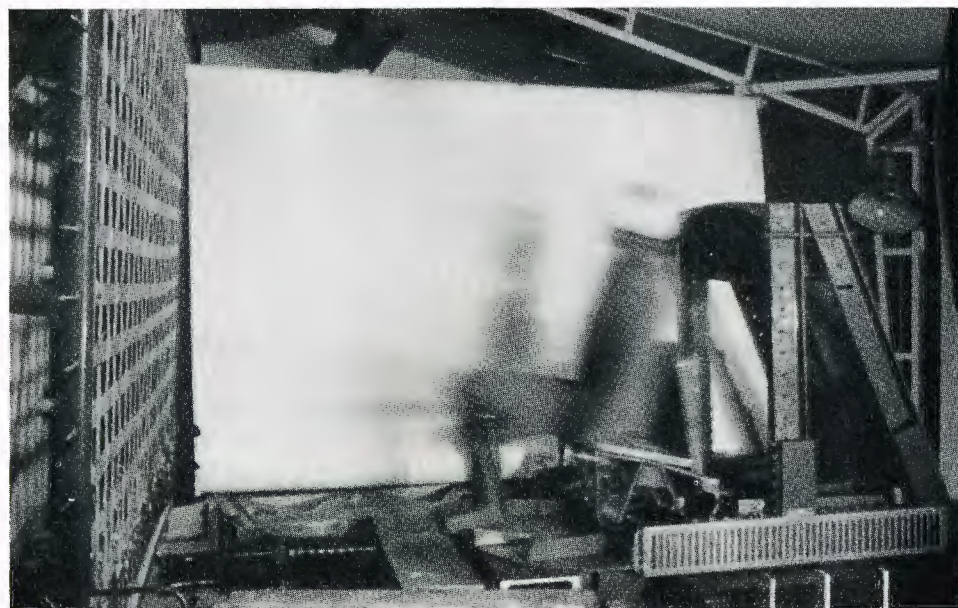
What of the future? Turkey has just embarked on the first of three five-year plans, which, among other developments, provides for important expansion of the chemical industry in Turkey. At this stage it is impossible to foresee to what extent, if any, ICI (Turkey) may be invited to participate in these developments, but, with Kenan Sesbes in the chair, it is certain that no worthwhile opportunities for expanding the Company's interests in Turkey will be missed.

D.C.G.R.



"The Other Fellow"

*A study in collaboration
by Philip Reilly*



"Stills" from the film made in the laboratories of the British Standards Institute at Hemel Hempstead. Those on the left show an unsupported dummy catapulting violently forward when a mock car seat was brought to a sudden stop while travelling at speed. Those on the far right show that in a similar test a dummy fitted with a safety belt remains firmly in the seat.

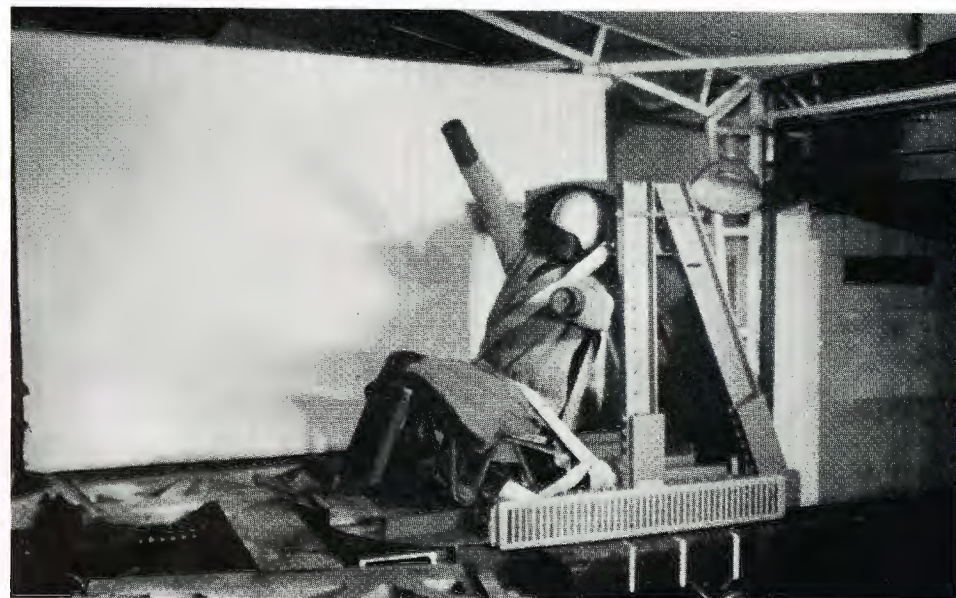
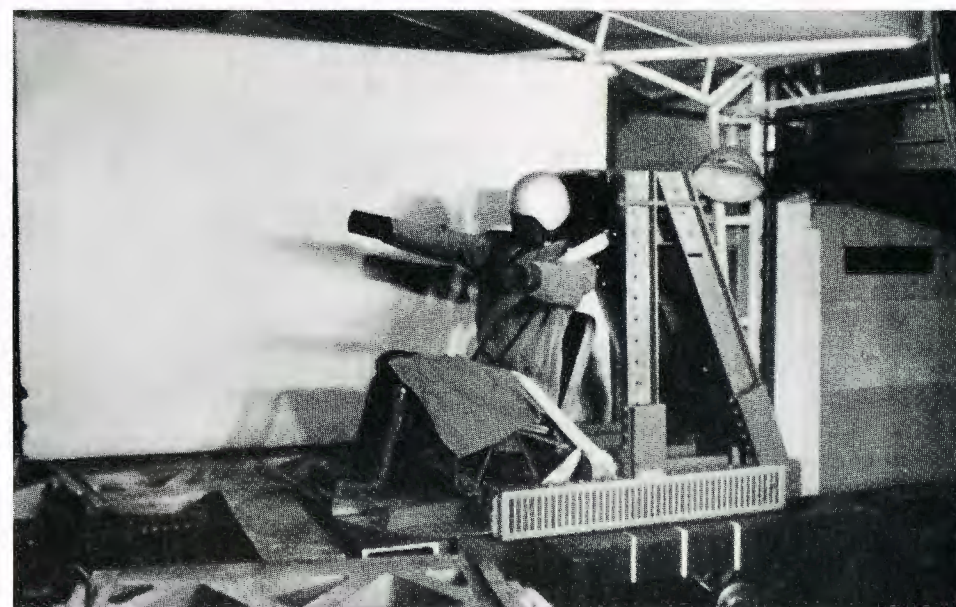
The Columbia cinema in Shaftesbury Avenue has been the scene of many of London's more spectacular film first-nights, when in a blaze of publicity such successes as *The Guns of Navarone* and *Porgy and Bess*, to name two of the most recent, have been shown for the first time to the British public.

One day last December, however, the Columbia was used for the premiere of a film of a different kind. Instead of the usual first-night crowd the audience was made up of people all with a common interest in the same important subject—safety on the roads. Among them were Members of Parliament, motoring journalists, and representatives of the Royal Society for the Prevention of Accidents, motor clubs, and other organisations.

They had come to see *The Other Fellow*, a new film on the use of car safety belts. *The Other Fellow* shows dramatically how the use of well-designed and equally well constructed safety belts can reduce the risk of death or serious injury in road accidents. The film, which is in colour and runs for 20 minutes, is a good example of customer-supplier co-operation in that it was made by the ICI Film Unit for an important customer, namely Britax Ltd., on a 50-50 basis. Britax are, of course, well known as makers of safety belts which are made from 'Terylene' supplied by Fibres Division.

The suggestion that the ICI Film Unit might make the film was made last summer by Central Publicity Department, when it was learned that Britax were thinking of using such a film as part of a sales campaign. The idea was put to Fibres Division as suppliers of 'Terylene,' and both they and the Britax management cordially agreed. They also agreed to share the cost.

Once approval had been given, progress was fast. Briefing sessions were held with Britax, and a script was prepared by David Evans of the Film Unit. It was discussed, modified and then approved, and within only a few weeks filming began. Some scenes were shot in the side streets of Lambeth, only a few minutes across the river from IC House at Millbank; an interview with Donald Campbell was filmed in the Film Unit studio while he was busy with preparations for his world land speed record attempt in Australia; and other scenes were filmed in the Britax factory at Byfleet. Still more were shot at the laboratories of the





Another still from the film shows Gil Delamare, a young French journalist and television personality, stepping uninjured from an

Austin A70 after crashing it into a stationary car at about 50 mph at a demonstration held by Britax Ltd. at Harringay

British Standards Institution at the new town of Hemel Hempstead.

These included the first sequences to be filmed in Britain of safety belt tests on a dynamic test rig. In these scenes a man-size dummy was brought to a sudden stop while travelling forward at high speed in a mock car seat, first without a safety belt and then with a belt. These sequences, showing the "unbelted" dummy catapulting forward from the seat immediately after the "collision," are among the most telling in the film. They show only too forcefully how in a crash the driver and front seat passengers in a car may be sent hurtling through the windscreen unless they are wearing safety belts.

More exciting perhaps were the scenes filmed at Harringay, during a demonstration staged for Britax by Gil Delamare, a young French journalist who, as a highly

individual sideline, specialises in crashing cars at high speed. At about 50 miles an hour Delamare drove a standard saloon straight into another car standing directly in his path. Thanks to his belt, he stepped out unhurt and completely relaxed. He then deliberately overturned another car travelling at an even higher speed, and once again he demonstrated the value of safety belts in practical conditions by climbing out unblemished. In both cases he was wearing a standard Britax belt mounted in the normal way.

The film has been earning praise ever since its first showing, and there has been a heavy demand for copies from motoring clubs, police forces and road safety authorities. It has also been shown on ABC Television in the Midlands and at the International Racing Car Show at Olympia, where it was screened several

times daily and was seen by at least 12,000 visitors.

The Other Fellow was completed in just over four months—a very short time for a venture of this sort—and costs were considerably less than would have been charged by a commercial film studio.

The whole process, from briefing to première, was an example of close co-operation between two organisations with a mutual interest, and the Britax view is summed up by one of their directors, Mr. Stephen Proctor, who comments: "The first time we saw *The Other Fellow* we felt certain we were on to a winner, and our expectations have been fully realised. . . . It has created enormous interest here and abroad and brings home very forcefully to the public the fact that they too may one day be *The Other Fellow*."

LATIN FOR A LID

By J.C. Page-Phillips

Outside each front door of the Victorian terrace where I live in South London, and set into the pavement, is a circular coal hole cover. Such covers are known to the ironfounders who cast them as coal plates, as something quite different to the coal delivery men who have to remove and replace them, but to enthusiasts, such as myself, as opercula. *Operculum* is the Latin noun meaning a lid.

I became interested in coal plates when I first lived in London, and realised that, like monumental brasses in churches, their designs can be copied with paper and heelball.

I now have nearly 100 rubbings and have come to recognise the mass-produced designs and to distinguish between early plates and modern ones.

Old coal plates, like the old houses to which they belong, are gradually being destroyed, and the pavements in which they lie are constantly being excavated and altered. Sometimes, as in Abingdon Street, S.W.1, at the moment, a row of coal plates survives after a block of houses has been demolished, but they are bound to disappear as soon as the pavement is renewed.

Most of the designs, like coins, have a border for lettering round the edge, on which the name and address either of the founder or of his customer appears. Some borders were left blank or were filled with stars instead of lettering; customers such as ironmongers or builders only had their name put on if they placed a bulk order or were prepared to pay extra.

When they did, the plates became advertisements. I have not found any example of a householder having his name and address on his coal plate.

Considerable thought once went into the design of coal plates. Various patents were taken out in the heyday, between 1850 and 1890, mainly to solve the problem of locking from street level. The method of locking was to use a chain and staple or a chain and crossbar, which was applied by someone inside the cellar. This was easy when the cellar was empty, but difficult when the cellar was full of coal. Locking was considered necessary, not to prevent burglars—the popular diameters were only 16–18 in.—so much as to prevent people, particularly children, from dislodging them or dropping things down.

The trade catalogues used by builders and ironmongers distinguished self-locking from other coal plates and within each category offered a solid or a ventilated or an illuminated plate. Ventilated plates admit air, and the best have holes that are part of the design; but on some the holes strike through the design at random. Illuminated plates contain glass so that some light can reach the cellar.

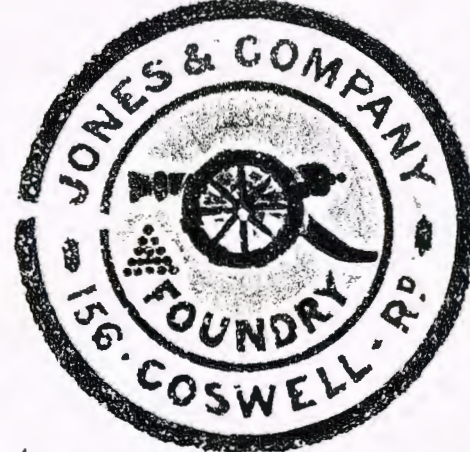
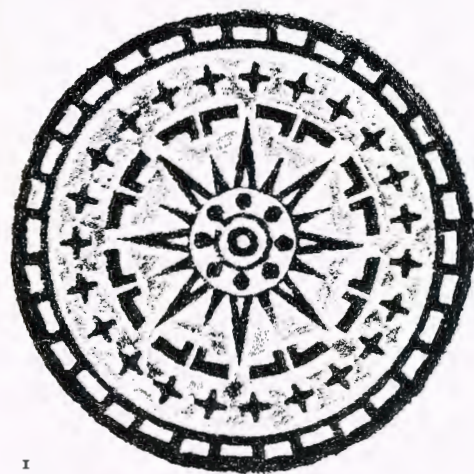
Set in the pavements, people notice them by their very quantity, and one can almost say that a folklore has developed round them. They enter into children's hopping games, and I know one man who taps them with his umbrella to hear the note produced, like (and is it a coincidence that he works for British Railways?) the

man who taps railway carriage wheels with a long hammer.

Coal holes certainly caused accidents, if not thefts, in the early days, sometimes leading the owners to court. Policemen have fallen down them on the beat. It is splendid to remember George Tomlinson, "gentleman," who patented a guard in 1855 that popped up when the coal plate was removed—even if his invention was never developed. The dangers of coal plates can be seen from some of the words that they carry on them, for example "Charles's Safety Plate," which survives in various parts of London and bears the date 1840. The plate outside my front door, to judge from the date of the house, was made in 1890 and says "Improved Safety Plate."

Rubbing coal plates calls for the oldest clothes, a selection of implements such as bradawls (for removing dirt), paper, sticking plaster to keep the paper down, and heelball (hard black cobblers' wax). A torch and a stout-hearted friend are also useful, for I usually rub late at night when some streets are unlit and perhaps tough. Police look at you, in such areas, with suspicion, and are liable to ask what you are carrying.

When I moved to Cheshire, I papered one wall of my house with such rubbings. One rubbing, I used to point out, came from the house Charles Dickens had occupied in Doughty Street, "The coal that warmed Charles Dickens dropped through that hole." Other famous men must have owned coal plates. If there are



any outside the old No. 10 Downing Street they will probably disappear when the new No. 10 emerges. A discerning Prime Minister would surely have ordered the coal plate, once produced by H. C. Davis & Co. of Clapham and Camberwell, which bears the words "Economy, Efficiency, Durability."

A surprising discovery about some coal plates is that when you take rubbings of them you disturb people who are working or sleeping underneath. A lady, a cat and a dog appeared from beneath one in Royal Crescent, and there was a noise of grumbling and a light went on under one in Little Russell Street.

My usual partner in crime, who is training to become a probation officer, was recently mistaken by a policeman for a woman lying "drunk and incapable" on the pavement. On another occasion a passer-by offered him 10s. thinking him to be a new type of pavement artist.

Ancient coal plates are now recognised as examples of "pop" art, of greater value to the art collector than the scrap merchant. An exhibition of forty coal plates was held at Gallery One in North Audley Street last December, and was opened by John Betjeman. If there is no place for them on the street any longer there may be a shrine for them on the mantelpiece or, hung like flights of duck, on the wall. Ventilated plates could be built into the wall and back-lit for effect.

There is nothing new about people being interested in coal plates, and I am pleased to end by paying tribute to a medical student of exactly 100 years ago, Shepherd T. Taylor. He made drawings of 150 coal plates that lay in his path between his lodgings in Argyle Square, near King's Cross, and King's College Hospital, then in Portugal Street, near the Strand. These drawings published by *The Ironmonger* in 1929 are of the greatest value in dating or in helping to date early coal plates.

Examples of coal plates from:

1. Little Russell Street, W.C.1
2. Outside 34 Windmill Street, W.1
3. 56 Queen Ann Street, W.1
4. Outside the "Blue Coat Boy," New Charles Street, Finsbury
5. Outside 46 Kensington Place, W.8
- 6-8. Coal hole plates from Victor Musgrove's exhibition at Gallery One, 16 North Audley Street, W.1

RIGHT: Lascelles Street, N.W.1. An unspoiled street with original architecture, ironwork and coal hole covers



The highland games

by Alex H. Merrie

The history of Highland Games in Scotland emerges from the mists of antiquity in the eleventh century. Malcolm Canmore, the great Scottish warrior king who married Margaret, niece of Edward Confessor, thereby forging a link which 500 years later united the crowns of Scotland and England, wanted to find speedier messengers. He required quicker lines of communication during his forays south of the Border against the Norman conquerors of his wife's country, for which he eventually gave his life. To find the strongest runners he organised athletic contests, one of which took place at his hunting lodge of Kindrochit, now a ruin in Braemar, site of the most famous of all the Games at the present time.

Malcolm's Games, besides the more usual running, leaping, dancing, wrestling and feats of arms, which were the relaxation of fighting men, included a hill race as a test of speed and stamina. The craze for speed had begun. Through the centuries this type of race has remained a feature of many of the games, although Queen Victoria banned it at Braemar as too severe; she was not amused. Years after her time, in the 1957 Ben Nevis race, a competitor fell and got lost on the mountain and died of exposure. Malcolm's entrance examination for his messengers had clearly been a severe one.

Many of the bigger games have now become very sophisticated over the years and are produced with all the smoothness of a Hollywood spectacle. "Tourist stuff, this!" you might say; but the basic thread running right back to Malcolm's Games is still there. Only the pattern has developed and brightened over the centuries. The modern tartans are more brilliant and complex, the kilts of the dancers are trimmer and neater than the philabegs of their forefathers; but the dances are traditionally the same with origins as ancient and savage as the tribal dances of the jungle. The Sword Dance, said to have originated when Canmore laid down his own sword across that of his defeated adversary and danced over them; the Highland Fling, sheer

LEFT: A general view of the Royal Games, Braemar



Dancers at the Aboyne Games, Aberdeenshire

joie de vivre, the triumphant dance of victory; the Sean Triubhas (pronounced "sheen trews"—old trousers), a dance of derision introduced when the clans were forbidden the kilt after the rising for Bonnie Prince Charlie. The stickler for tradition would have only male dancers, as of old; but few will grumble at the grace and elegance of the bonnie lassies who now compete.

From the opening ceremony, when usually the Chieftain of the Games arrives in procession with the clansmen, to the grand finale of the massed pipe bands, the scene is like a kaleidoscope: the dancers twirling on the competition platforms; runners and sometimes cyclists on the outer track; in the middle of the field the strong men; the solo pipers and quartets on the piping platforms, the judges sitting silent and absorbed; and all against a backcloth of heather-clad mountains. Few, even Sassenachs, can resist the appeal of this colourful scene.

The heavy events underline the basic simplicity of the Games. All of them stem from ancient occupations. What more likely for woodsmen to use in trials of strength than a trunk of a tree? And so we have Tossing the Caber—a long tapering larch pole up to 20 ft. long and $1\frac{1}{2}$ cwt. in weight has to be thrown so that it lands on the heavy end and turns right over. The winner is he whose throw lies nearest to the twelve o'clock position in line with his run in as he staggers forward with the huge unwieldy

pole. Two attendants are required to carry it back for each attempt. If the tree selected is beyond the powers of all competitors, a piece is sawn off the blunt end and the competition begins again. On occasion it has been known that too much was sawn off and all competitors threw it with ease, thereby causing much consternation and delay, for a 20 ft. larch pole cannot be produced out of the hat!

Throwing the Hammer at the Games comes straight from the farm and smithy, where the young lads found the long-handled heavy hammer an excellent object to throw. Scottish rules specify the wooden-shafted hammer and do not allow competitors to use their feet to turn and so gain additional impetus as with the wire-handled hammer of the Southern athletic meetings. The throw is from the arms and shoulders only.

The simple origins of Putting the Shot, or heavy water-smoothed stone from the river bed, or throwing the 56 lb. weight ready to hand from the village weighing machine, need no explanation. Nor does tossing a full sheaf of corn over a high bar. Team events include the well-tried tug of war.

Novelty items sometimes add a touch of the unusual: tilting the bucket and pillow fighting are the most common. Organisers are always seeking to dream up something out of the ordinary. At Braemar they include a competition for the best-dressed



A parade of the best-dressed Highlanders (photograph by J. Macdougall)

Highlander. This male mannequin parade attracts a goodly entry, for the plumage of the male Highlander makes him the brighter of the species. After all, does it not say in Johnston's *Highland Dress and how to wear it*—"Attempts to deprive the garb of its ornaments or reduce it to the dead monotony of Anglo-Saxon clothes are un-Scottish and contemptible"?

August and early September are the months for Highland Games in Scotland. They are held in practically every Highland district and township of any size. The smaller games are closer to the basic tradition—at Kinloch Rannoch, for example, under the shoulder of Schiehallion, where Loch Tummel and Loch Rannoch nearly join, a delightful games is held each year. Amidst wonderful scenery in the heart of Perthshire all the features of the bigger games can be seen at close quarters without the huge crowds of the more sophisticated games—all the dancing, piping, hammer throwing, caber tossing, and even a hill race up the crag that towers above the field. But to be fashionable, if crowded, one must go to the bigger games—Skye, Oban, Cowal, Inverness, Aboyne and Royal Braemar. For the piping enthusiast Oban or Inverness should be the choice, where the world's finest pipers gather and compete for the Oban Medal and the Inverness Medal, to win which is the hallmark of the great piper. Nowhere in the world can the

pibroch, the classical music of the pipes, be heard to finer advantage: tunes that have been handed down from piper to piper since before musical notation for the pipes had been invented—great tunes with romantic names: "I got a kiss of the King's hand," "My King has landed at Moidart."

But for the greatest show on earth in Highland Games it has to be Royal Braemar. Within a stone's throw of the site of Malcolm's Royal Games, it is held each year in the first week of September. The comparatively small royal park, far exceeded in area by the parking space for cars and coaches, is packed each year with people from all over the world. The tension and excitement are tremendous and seem to explode at the arrival of the Queen and her family from Balmoral Castle. From then till the massed pipe bands sweep into the arena there is never a moment when the eye and ear are not thrilled by a sequence of events which blends the present with the historical past in unforgettable pageantry.

For those who cannot go to Scotland, some great Scottish gatherings are held each year in England, for example at Harpenden in Hertfordshire and Clapham in London. They get very near to the real thing. Hundreds of Scottish competitors travel down from Scotland to compete. Only the heather-clad hills are missing.

Nicola, Charles Scott's small daughter, photographed by her father

